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Cyber Dating Abuse: How Coercive Control and Attitudes about Dating Aggression
Affect Health and Relationship Quality

By

Samantha Daskaluk

A Thesis
Submitted to the Faculty of Graduate Studies
through the Department of Psychology
in Partial Fulfillment of the Requirements for
the Degree of Master of Arts
at the University of Windsor

Windsor, Ontario, Canada

2016

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Affect Health and Relationship Quality

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ABSTRACT

The present study applied Johnson's (2006) typology to cyberspace. In addition, it examined how cyber intimate partner aggression (IPA), cyber control, and acceptance of cyber IPA related to emerging adults' (i.e., ages 18-25) relationship satisfaction and commitment and mental and physical health. Participants ($N = 209$) completed measures of demographics, cyber IPA, in-person IPA, coercive control, relationship quality, health, acceptance of cyber IPA, and social desirability. Situational couple violence had similar prevalence rates in person and in cyberspace, violent resistance and mutual violent control were more prominent in cyberspace than in person, and intimate terrorism was more prevalent in person than in cyberspace. Men and women had equivalent rates of situational couple violence, violent resistance, and mutual violent control in person and in cyberspace, whereas women had higher rates of intimate terrorism than men in cyberspace. Cyber IPA predicted lower relationship satisfaction and relationship commitment and more mental health problems. In addition, higher frequencies of cyber IPA and higher frequencies of cyber control predicted higher commitment for women and less physical health problems for both men and women. There was no significant interaction between cyber IPA, cyber control, and acceptance of cyber IPA. Last, women's and men's in-person typology was congruent with their cyber typology. These findings have implications for future IPA research and prevention and intervention programs for victims and perpetrators of IPA.

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CHAPTER I

Introduction

Intimate partner aggression (IPA) consists of hostile behaviours that are physical, sexual, or psychological in nature and are enacted against a current or former significant other (Centers for Disease Control and Prevention [CDC], 2015). Incidents in which individuals repeatedly tell their partners they are worthless or force their partners to engage in nonconsensual sexual behaviours are examples of IPA. Within the IPA literature, researchers have interchangeably used various terms to refer to intimate partner aggression, including abuse and violence; however, these are separate and distinct concepts (Archer, 1994). Aggression has been defined as the act itself (e.g., a verbal insult), whereas violence has been defined as the act and resulting consequence (e.g., an aggressive act that results in injury). The present paper will use the term “intimate partner aggression” because the IPA measures used in this study focus solely on the acts.

From 2004 to 2008, IPA that occurred in dating relationships increased by 40% for women and 47% for men (Statistics Canada, 2010). By 2008, dating IPA accounted for seven percent (about 23,000 incidents) of all reported crimes in Canada (Statistics Canada, 2010). Of the 23,000 individuals who experienced dating IPA, approximately 19,000 were female and 4,000 were male. According to Statistics Canada (2015), between the years 2009 to 2013, the amount of dating IPA stabilized. It is important to note that these records of IPA only include those incidents conveyed to the police, and that a large percentage of victims do not report their IPA to law enforcement (Statistics Canada, 2011). Thus, it is probable that the presented statistics are underestimates. Moreover, because frequency-based measures do not examine the context in which the aggression takes place, the perpetrator’s motivations, or the consequences of these acts, these

estimates may not accurately reflect the true nature of the aggression and violence that occur in romantic relationships. Nevertheless, these percentages still provide some information about the widespread use of dating aggression.

In a meta-analysis conducted by Desmarais, Reeves, Nicholls, Telford, and Fiebert (2012), the authors examined the rates of IPA from 111 research articles. Based on the 30 articles sampling university students and young adults, the authors found that, overall, 27.5% of women and 20.1% of men experienced physical IPA. A review conducted by Carney and Barner (2012), which examined 204 studies, found that 80 to 90% of university men and women have experienced psychological IPA. These authors also determined that between 18.3 to 36.4% of university students in North America reported being forced to engage in nonconsensual sex by an intimate partner.

In addition, a study that surveyed 250 university students through an online survey determined that 32.4% of the women experienced physical IPA, 83.0% experienced psychological IPA, and 30.1% experienced sexual IPA (Fass, Benson, & Leggett, 2008). Similar rates were found for the men (41.9%, 86.5%, and 27.0%, respectively). Therefore, IPA studies generally report that sexual and physical IPA have the lowest prevalence rates and psychological IPA has the highest.

Although IPA has been enacted traditionally through face-to-face contact, as electronic devices and the Internet have become ubiquitous, perpetrators can also use cyberspace to harass and control their partners. As such, 24% of cybercrimes reported to law enforcement are perpetrated by intimate partners (Statistics Canada, 2014).

Cyber Intimate Partner Aggression

Cyber IPA encompasses a wide range of acts, including texting threatening or negative remarks to a partner, stalking significant others on Facebook or through other

social media, controlling who a partner communicates with in cyberspace, or using global positioning services navigation to locate a partner (Southworth, Finn, Dawson, Fraser, & Tucker, 2007). Cyber IPA contains two types, psychological cyber IPA (e.g., spreading rumours about their partner on social media or repeatedly insulting their partner over text) and sexual cyber IPA (e.g., threatening their partner to send them nude photos or repeatedly sending unwanted sexual texts to their partner).

Research suggests that the prevalence of cyber IPA (Finn & Atkinson, 2009; Southworth et al., 2007) is comparable to the prevalence of psychological in-person IPA, and that it therefore occurs more frequently than physical and sexual in-person IPA (as noted above). This may be due to recent advancements in and increased accessibility of technology, which provides IPA perpetrators with additional means to isolate, control, and abuse their partners (e.g., monitoring an intimate partner through texts and social media; Finn & Atkinson, 2009; Southworth et al., 2007). Only recently has research begun to assess the incidence and frequency of cyber IPA.

In 2009, Finn and Atkinson published a study that examined the efficacy of an intervention called The Technology Safety Project of the Washington State Coalition Against Domestic Violence. This intervention was developed to increase participants' knowledge and awareness of electronic security and methods to increase women's safety online. Their sample consisted of women and staff from several women's shelters. Finn and his colleagues found that 17 to 25% of the women who participated in the study had their browser and email history monitored and were repeatedly harassed over email. Unfortunately, the authors did not ask specifically about cyber abuse with participants' intimate partners, nor did they give a time interval in which participants were supposed to report on (e.g., within the past three months), or a minimum number of acts required to be

considered IPA. Moreover, because Finn and Atkinson did not intentionally set out to determine the frequency of cyber IPA among shelter women, the authors asked only a small number of questions. Therefore, due to the limitations of this study the prevalence rate reported may be an underestimate of the cyber IPA those women experienced.

More recently, researchers who have focused on cyber IPA have found varying rates (Bennett, Guran, Ramos, & Margolin, 2011; Fritz, Piitz, Daskaluk, & Wilson, 2016; Korchmaros, Ybarra, Langhinrichsen-Rohling, Boyd, & Lenhar, 2013). In 2011, Bennett and colleagues surveyed 437 undergraduate students to inquire about the frequency with which cyber IPA occurred in their romantic and platonic relationships. These authors found that approximately 77% of both female and male students had been the victims of at least one act of cyber IPA in the course of the preceding 12 months. It was also demonstrated that men experienced a greater amount of cyber IPA victimization than their female counterparts, although the authors did not provide any reasoning for this finding.

Another more recent study focused on the perpetration of partner violence in approximately 900 youth between the ages of 14 and 19 years (Korchmaros et al., 2013). The authors examined the relation between cyber psychological IPA and in-person psychological IPA based on data from the national Growing up with Media study. These authors found that 41% of psychological IPA perpetrators harassed their intimate partners through cyberspace, particularly via text messaging (38%).

In addition, in a study that examined the effects of cyber IPA on victims' psychological functioning (i.e., internalizing and externalizing behaviours) Fritz and colleagues (2016) found that different forms of cyber IPA occurred in 67.5% to 86.5% of their sample, with coercive control being most frequent form. Fritz and colleagues (2016)

also found that cyber IPA occurred via telephone 84.0% of the time and texting 70.5% of the time. Cyber IPA was reported to have occurred least often via social media (31.0%).

Although the above studies have provided information about rates of cyber IPA, these studies have solely examined psychological cyber IPA without considering sexual cyber IPA. Thus far, there is only one known published study that has examined sexual cyber IPA—and it did not examine it as a separate construct, but instead combined it with psychological cyber IPA. Zweig, Lachman, Yahner, and Dank (2014) studied psychological and sexual cyber IPA in 5,647 students in grades 8 to 12. Of the 3,745 students who were currently in a romantic relationship or had been in a relationship within the last 12 months, 944 of them (25%) had experienced cyber IPA. However, because sexual and psychological cyber IPA were combined into an overall measure of cyber IPA, it is not clear how prevalent sexual cyber IPA is and whether or not it tends to occur in relationships in which psychological cyber IPA is also present. Thus, future studies should report the prevalence rates of sexual and psychological cyber IPA separately, and examine both forms of cyber IPA among individuals of other age groups. In particular, given that IPA has been found to peak in individuals during their early 20s (O’Leary, 1999), it is important to examine both sexual and nonsexual cyber IPA occurring in emerging adults’ romantic relationships. The present study aimed to investigate these understudied questions by assessing both psychological and sexual cyber IPA and presenting prevalence rates for both cyber psychological and sexual IPA.

The generally high cyber IPA prevalence rates presented above demonstrate the importance of learning about and understanding cyber IPA, as it appears to affect a sizable portion of the population of youth and adults. It is important to note, however, that the high prevalence rates may be in part related to the way IPA prevalence rates are often

operationalized. Generally, researchers operationalize IPA as at least one aggressive act against their partner within the past 12 months, including both severe and minor acts (e.g., sharing private sexual pictures without permission or saying a negative remark to their partner, respectively). Thus, it is probable that the prevalence rates for those who are abused by their intimate partners more frequently and in a more severe manner would occupy a smaller proportion of the above reported prevalence rates compared to individuals who experience less severe and less frequent IPA acts. Nonetheless, the above prevalence rates of in-person and cyber IPA demonstrate the large portion of individuals IPA affects, and in turn, the importance of studying this phenomenon.

The relation between cyber and in-person IPA. Although cyber IPA is a newly emerging research area, several recent studies have begun examining the relation between cyber and in-person IPA. Multiple researchers have identified a significant positive relation between these two forms of IPA in that the more in-person IPA individuals have experienced, the more cyber IPA they also have experienced (Bennett et al., 2011; Fritz et al., 2016; Korchmaros et al., 2013; Schnurr, Mahatmya, & Basche, 2013). In 2013, Schnurr and colleagues examined the romantic relationships of 148 emerging adult couples. These authors found that men's own perpetration of cyber aggression predicted their perpetration of in-person psychological IPA, whereas women's perpetration of cyber aggression predicted their perpetration of physical in-person IPA. Schnurr and colleagues (2013) also reported that if one partner perpetrates in-person IPA it increases the likelihood of the other partner's cyber IPA perpetration. Essentially, if Partner 1 psychologically or physically abuses Partner 2 face-to-face, it is more likely that Partner 2 will retaliate by abusing Partner 1 via cyberspace. Pornari and Wood (2010) found similar results with 159 youth in grades 7 to 9 such that participants who perpetrated or were

victims of in-person abuse were more likely to perpetrate or be victims of cyber abuse, respectively. Korchmaros and colleagues (2013) also found support for a positive relation between in-person and cyber IPA. Additionally, these authors determined that there were perpetrators who inflicted in-person IPA only, cyber IPA only, and both in-person and cyber IPA to harass their intimate partners. Korchmaros and colleagues' (2013) finding is noteworthy as it demonstrates the presence of different types of IPA perpetrators and potentially suggests that the different forms of perpetration may have distinct consequences for their victims. This is supported by the finding that perpetrators who used both cyber and in-person means to aggress against their significant others had a higher average frequency of perpetration (across all acts) than perpetrators who use in-person methods only (Korchmaros et al., 2013). Although it is possible that cyber IPA has different consequences compared to in-person IPA, it is also plausible that the correlates and potential consequences of in-person IPA likewise apply to cyber IPA (e.g., reduced relationship quality) because cyber and in-person IPA are positively related to each other. Thus, the present study examined the association between cyber and in-person IPA with emerging adults and assessed whether cyber IPA, similar to in-person IPA, predicted relationship quality and health.

Moral disengagement. One possible mechanism behind the high prevalence of cyber IPA is moral disengagement. Moral disengagement was first introduced by Albert Bandura (1991, 1996), who defined the concept as instances in which individuals extricate themselves from their typical ethical standards in order to sanction their immoral actions. People often face dilemmas in which they feel the need to commit acts they perceive as immoral in order to obtain something they desire. Individuals then have to choose whether or not they are willing to commit these detrimental acts.

In order to overcome this dilemma and believe their actions are acceptable, there are eight mechanisms Bandura (1990, 1991, 1996) discussed that people use to morally disengage from their ethical standards. Four of Bandura's mechanisms that have been shown to be related to cyber aggression are reviewed here (Robson & Witenberg, 2015). The first mechanism is called *moral justification*. Bandura described this as perpetrators reconstructing their depraved actions as moral in order to validate themselves (e.g., when perpetrators believe it is acceptable to commit cyber aggression to protect their friends). The second is termed *euphemistic labeling*, which is when people rename their negative acts to appear more acceptable. This type of moral disengagement can occur when perpetrators believe they are "just teaching the victim a lesson." Next is the *diffusion of responsibility*. This can occur when there is group decision making, such that no one person is responsible for the immoral acts. Instead, each person has a small part in the operation. An example of diffusion of responsibility would be when a group of people cyberbully an individual and thus no one person is perceived to be solely responsible for the negative consequences. The last mechanism of moral disengagement that applies to cyberbullying is termed *attribution of blame*. This occurs when perpetrators believe they are the real victims and their victims are to blame for the depraved undertakings they are enacting because of the victims' behaviour or the situation. An example is when perpetrators of sexual assault often lay blame on the victim for what the victim was wearing or how the victim was behaving, or blame the situation (e.g., being under the influence of drugs or alcohol at the time).

Moral disengagement is consistent with the *online disinhibition effect*, which states that individuals may act differently online than they would in-person (Suler, 2004). In cyberspace, people often express themselves more openly and perform acts they would

not do in-person. Suler (2004) discusses that these acts can be either positive or negative in context (e.g., being exceedingly generous or making derogatory comments). He explains that there are six factors that differentiate cyber space from real life, and thus engender some individuals to act in an atypical manner. These factors illustrate that behaviours undertaken in cyberspace (a) often appear anonymous and (b) invisible; (c) do not take place in real time (which means that victims or perpetrators may not respond for hours or days); (d) can be projections of individuals' expectations and desires onto the other person(s) with whom they are communicating (because the individuals cannot see or hear the recipients' reactions); (e) can seem game-like or fictitious, allowing individuals to detach themselves from reality and leave their ethics behind; and (f) can be affected by that minimization of authority that occurs in cyberspace.

The connection between moral disengagement and the online disinhibition effect may aid in the understanding of cyber aggression. Bandura (2002) discussed the negative effects of technology in connection with moral disengagement and how factors of cyberspace may engender moral disengagement. Similarly, Zidack (2013) briefly examined the connection between the online disinhibition effect and moral disengagement, and in particular, how the factors underlying the online disinhibition effect (e.g., anonymity and invisibility) may lead to moral disengagement. The factors that separate cyberspace from real life may provide additional means for perpetrators to morally disengage from adverse actions. Some individuals may therefore participate in immoral acts in cyberspace that they would not commit in real life due to the anonymous, invisible, and fictional nature of cyberspace. This is especially important to consider as the use of technology in day-to-day life continues to increase.

Although such theorists as Bandura (2002) and Zidack (2013) have begun to hypothesize about the relation between cyber aggression, moral disengagement, and the online disinhibition effect, empirical research on the topic is sparse. The majority of studies that have examined these relations have focused on the connection between moral disengagement and cyber aggression. Researchers have found that youth who reported high levels of moral disengagement were more likely to perpetrate cyber aggression than youth with lower levels of moral disengagement (Gini, Pozzoli, & Hymel, 2014; Pornari & Wood, 2010; Robson & Witenberg, 2015). Pornari and Wood (2010) explained that using online media detaches emotions from the situation and allows cyber perpetrators to require less moral justification to inflict abuse. Individuals may therefore find it easier to perpetrate cyber IPA than in-person IPA, which may contribute to high rates of cyber IPA. Consequently, there is a need to obtain a deeper understanding of cyber IPA. Due to the high perpetration rates of cyber IPA, there is an urgent need to learn whether there are different risk factors for and potential consequences of such aggression.

Potential Consequences of Cyber and In-person IPA

Physical and mental health. One potential consequence of experiencing cyber IPA is the deterioration of the victim's physical and mental health. Previous research has demonstrated that individuals who have experienced in-person IPA encounter more health problems than those who have not (Campbell, 2002; Coker et al., 2002; Derrick, Testa, & Leonard, 2014). In a review of this literature domain, Campbell (2002) found that women experiencing in-person IPA from their current or former husbands or boyfriends had increased risk of developing health problems such as depression, posttraumatic stress disorder, physical injury, chronic pain, seizures, hypertension, and digestive and gynecological issues compared to women not experiencing in-person IPA.

Two other studies examined the mental and physical health effects of in-person IPA with male and female emerging adults (Amar & Gennaro, 2005; Sabina & Straus, 2008). These two sets of authors determined that in-person psychological, sexual, and physical IPA victimization were related to experiencing symptoms of depression, anxiety, posttraumatic stress, anger, and physical injuries. Additionally, individuals who experienced repeated acts of in-person IPA had more mental and physical health symptoms than individuals who experienced a single act of in-person IPA.

In 2014, a study by Derrick and colleagues examined the disparity between partners' reports of IPA. These authors assessed the relationships of 118 married or cohabitating couples (22 to 45 years old) across 56 days and found that when a victim or both the victim and the perpetrator reported abuse, the victim experienced a more negative mood on the following day. Similarly, if the perpetrator solely reported the abuse or if both the perpetrator and the victim reported the abuse, the perpetrator also often had a more negative mood the following day.

Recently, researchers have begun to examine the relation between cyber IPA and health. Studies have found that the health problems related to cyber IPA extend and surpass those associated with in-person IPA, as cyber victims experienced more maladaptive psychological functioning (Fritz et al., 2016; Zweig, Lachman, et al., 2014). Fritz and her colleagues (2016) reported that cyber IPA was a better predictor of internalizing, externalizing, and total maladaptive psychological functioning than in-person IPA. Furthermore, Zweig, Lachman, and colleagues (2014) found that being a victim of cyber IPA was more strongly related to depressive symptoms and delinquency in comparison to being a victim of in-person IPA. Zweig, Lachman, and colleagues (2014) also found that youth who experienced cyber victimization engaged in alcohol and

drug use, delinquent behaviours, and sexual activity and experienced depressive symptoms, anger, and anxiety. Therefore, although research has demonstrated that cyber and in-person IPA are related to poor mental and physical health of victims and perpetrators, cyber IPA has been related to lower levels of mental health than in-person IPA.

Relationship quality. Another possible consequence of cyber IPA is low relationship quality. Although there is evidence for low relationship satisfaction and commitment for relationships that involve in-person IPA (Burrus, & Cobb, 2011; Derrick et al., 2014; Linder, Crick, & Collins, 2002; Weston, 2008), only one known study has examined the impact of cyber IPA on relationship quality. Simmering McDonald (2012) examined the effects of cyber IPA on 349 university students (18 to 24 years old). Her study examined cyber IPA and participants' ability to cope. Her findings indicated that participants who were victims of at least one act of cyber IPA had lower levels of relationship satisfaction, but not commitment, compared to participants who were not victims. Nevertheless, in analyses examining IPA as a continuous variable, participants who experienced higher levels of cyber IPA had lower levels of satisfaction and commitment to their intimate relationships compared to participants with lower levels of cyber IPA.

Similar effects were found in studies examining in-person IPA. Linder and colleagues (2002) examined the relationships of 104 undergraduate and graduate students and their experiences of in-person IPA. These authors found that higher levels of in-person IPA perpetration and victimization were associated with lower levels of couples' relationship quality compared to lower levels of in-person IPA. Correspondingly, researchers have found support for the negative association between psychological IPA

and relationship satisfaction in samples of university women (Edwards, Gidycz, & Murphy, 2011; Katz & Kyhr, 2008). When examining the temporal relationships, longitudinal research by Weston (2008) and Derrick and colleagues (2014) found that high levels of psychological in-person IPA at Time 1 was related to reduced relationship quality at Time 2 (e.g., relationship satisfaction, well-being, and happiness). However, it is noteworthy that Weston (2008) found that neither physical nor sexual in-person IPA were related to female participants' relationship quality. Furthermore, Derrick and colleagues (2014) determined that psychological in-person IPA reported by both the victim and perpetrator were related to low relationship quality for both partners. Thus, Weston's (2008) and Derrick and colleagues' (2014) findings demonstrated a temporal order between experiencing IPA and reduced relationship quality among dating or married participants between the ages of 20 to 49.

When considering gender differences and the relation between IPA and relationship satisfaction, one study conducted by Burrus and Cobb (2011) demonstrated that although being a victim of IPA can affect both men and women, the effects of IPA differ between genders. The study examined 188 newlywed couples during the first 6 months of their marriage. The authors determined that women who were victims of physical or psychological in-person IPA had low marital satisfaction, whereas husbands who were victims of psychological in-person IPA only had low marital satisfaction. Taken together, past research has found that both cyber and in-person psychological IPA are related to low relationship satisfaction and commitment for both men and women. The present study adds to the literature by providing an additional evaluation of the relation between cyber IPA and relationship satisfaction and commitment—but this time by investigating both psychological and sexual cyber IPA.

Potential consequences for cyber versus in-person IPA. Melander (2010) has suggested that cyber IPA may have more dire effects than in-person IPA because many forms of cyber IPA can be easily relived (e.g., re-reading emails or text messages). Although all IPA can be relived through memory, Melander (2010) and cyberbullying researchers (e.g., Patchin & Hinduja, 2006) suggest that having the ability to reread or repeatedly see text or Facebook posts can increase the negative effects of cyber IPA. Not only can the acts of cyber harassment and aggression be repeatedly experienced, they also can be rapidly made accessible to the public through cyberspace (Strom & Strom, 2005), possibly affecting the victim's everyday life at school or work (Patchin & Hinduja, 2006). Furthermore, because the IPA occurs in cyberspace, it can pervade the victim's life regardless of space and time (Patchin & Hinduja, 2006; Strom & Strom, 2005). That is, victims can review the text essentially anywhere they are (e.g., on mobile devices or personal computers) and at any time of the day or night. Additionally, because the acts are not conducted in-person cyberspace may reduce the perpetrator's fear of getting caught and the perpetrator's feelings of guilt and regret given they cannot see the immediate negative effects of the aggression (Patchin & Hinduja, 2006; Strom & Strom, 2005).

In a longitudinal study with Swiss students who were originally in the seventh grade (Time 2 $N = 838$, Time 3 $N = 881$), Sticca and Perren (2013) compared participants' perceptions of in-person versus cyber aggression. Through hypothetical situations, these authors determined that participants felt that cyberbullying was more severe than face-to-face bullying when it occurred in public. Furthermore, participants felt that cyberbullying was more negative than in-person bullying regardless of whether or not the bully was anonymous. Similarly, Bauman and Newman (2013) examined 588

university students' perceived severity of cyber and in-person aggression. The authors determined that although some situations were considered more severe in cyberspace, others were not. Therefore, some studies have supported the notion that cyber aggression is quantitatively distinct from in-person aggression. These findings suggest that further research is required to examine the potentially disparate effects cyber and in-person IPA may have on victims. The present study attempted to do so by examining the relations between cyber and in-person IPA and participants' health and relationship quality in emerging adulthood.

Coercive Control

Although researchers have extensively examined IPA behaviours, there has been limited research on the concept of coercive control. Coercive control has been described as a process in which the perpetrator makes a demand and a credible threat that provides the perpetrator with “unreciprocated authority” in order to enforce submission from their victim (Dutton & Goodman, 2005; Stark, 2007). After the perpetrator gives the demand and the threat, the victim responds by either complying or not. If the demand is not granted, the threat is implemented. Coercive control and IPA are thus distinct concepts as coercive control is a process of demands and threats, whereas IPA behaviours are just one part of that process. That is, although perpetrators can use IPA (e.g., physical abuse) as a method to control their victims, coercive control is the overall process (from demands to implemented threats).

Dutton and Goodman (2005) stated that victims might not obey their perpetrators at first because the “stage” has not been set. This may occur if the victims do not believe the threat is credible. According to Dutton and Goodman (2005), there are four methods perpetrators use to set the stage of IPA. The first step is creating the expectancy for

negative consequences. Aggressors may therefore state how they are going to punish their partners or describe how they have abused their previous partners. The second step is creating or exploiting their partner's vulnerabilities (e.g., immigration status, custody of children, money). The third method is wearing down the partner's resistance by reducing their partner's resources (such as friends, money, or social support). The final method is facilitating the partner's emotional dependency on the aggressor. If the victimized partners feel as though they have no one else to rely on for emotional support but the aggressor, they are in a more vulnerable position to be controlled.

Stark (2007) and Dutton and Goodman (2005) purport that coercive control could be implemented explicitly or implicitly, with the latter allowing the abuse to remain easily unseen. Thus, the coercive control could be explicit as in situations in which a perpetrator verbally threatens her boyfriend, indicating that if he talks to any other women she will publicly share many private and humiliating photos of him. Or, it could occur implicitly, such as when a coercively controlling boyfriend offers his jacket to his girlfriend (which appears to others as a kind act), but in truth signifies to her that she will be beaten later for drawing too much attention to herself due to her choice of clothing. Thus, in coercively controlling relationships, perpetrators frequently govern their partners' resources (e.g., money), restrict their partners' choices for things such as food, clothes, and friends, and monitor their partners to ensure obedience (Stark, 2007).

Another important development in the theory of control is Johnson's (1995) typology of IPA. Johnson's work was in response to the ongoing gender symmetry debate within the research literature regarding the prevalence and severity of in-person IPA perpetrated by men and women. This debate involves the two major perspectives of IPA, the family violence perspective and the feminist perspective. Family violence perspective

researchers believe that there is gender symmetry in IPA (i.e., men and women have equivalent rates of perpetration and victimization), and some research has even found that women have higher rates of perpetration and lower rates of victimization than men (Straus, 2010). These researchers believe that IPA should be viewed as family violence, not as violence against women. Furthermore, family violence perspective researchers believe there should be treatments for both male and female perpetrators of IPA (Straus, 2010).

On the other hand, feminist perspective researchers believe that IPA does not have gender symmetry and that IPA consists of male perpetrators and female victims (Dobash, Dobash, Cavanagh, & Lewis, 1998). These researchers believe that violence against women occurs as a result of patriarchal influences within society, in which men are more dominant and in control. According to this view, men use violence against women as a method to further obtain control in their relationships (Dobash et al., 1998).

In response to the disparity between family violence and feminist researchers' results, Johnson (1995) reviewed the literature, re-analyzed data, and came to the conclusion that both sets of researchers were accurate. Johnson posited that the two groups of researchers were studying different phenomena due to sampling different populations. That is, family violence researchers have typically used random sampling methods and feminist researchers have tended to examine violence perpetrated against individuals from shelters, emergency rooms, and the courts. Johnson discussed how both of the samples are biased and thus do not examine the same type of violence.

Feminist researchers have generally compiled data based on IPA cases that are patriarchal (i.e., male perpetrated) and more severe, whereas family violence researchers have tended to examine common couple violence where violence typically occurs as a

result of escalated arguments. Feminist researchers have tended to examine more severe and patriarchal violence because they compile their data from shelters and courts, where female victims have generally been involved in very violent and controlling relationships. This is conveyed by the effort and determination required to leave their abusive partners. Johnson states that general surveys would not account for this high severity of violence because it is unlikely that women would risk the consequences of completing an IPA survey while they are still with their partners. Furthermore, Johnson's (1995) research demonstrated that feminist research indicates that men are generally the abusers and finds that violence tends to escalate over time. Conversely, family violence researchers generally find equivalent rates of men and women perpetrators, that violence does not escalate over time, and that the more severe violence actually decreases. Thus, Johnson explains that the IPA prevalence results differ between these two sets of researchers because they were sampling different types of violent relationships and these different relationships are distinct based on the abuser's level of power and control.

Johnson (2006) posits that there are four types of violent relationships: (a) *situational couple violence* – in which one or both partners are violent but neither are controlling, (b) *violent resistance* – in which one noncontrolling partner is violent against his/her controlling partner (i.e., self-defense), (c) *intimate terrorism* – in which one partner is violent and controlling against a noncontrolling partner, and (d) *mutual violent control* – in which both partners are violent and controlling. Participants in IPA relationships are assigned to one of these four categories based on their and their partner's level of control and violence. Each of these violent relationship styles have distinct causes, courses, and consequences (Johnson, 2006). Because of this, Johnson explained that if researchers do not account for control in IPA, they are not able to obtain an

accurate picture of the true dynamics of the relationship. Thus, if researchers are not accounting for the different types of IPA relationships, this could account for the disparity in prevalence rates and findings regarding the correlates, motivations, and consequences of IPA. Notably, it is possible that the type of violent relationship an individual is in may change over time or in different situations. Despite this, the present paper will treat each participant's violent relationship type as a portrayal of the overall pattern of IPA and control in his/her relationship, similar to Johnson (2006).

Prevalence rates of Johnson's typology. In 2006, Johnson examined three different samples of women to determine the prevalence rates of his IPA typology: one sample from the community, one from the courts, and one from a women's shelter. Among the individuals from the community sample who were in IPA relationships, 0% had experienced mutual violent control, 11% had experienced intimate terrorism, 0% had experienced violent resistance, and 89% had experienced situational couple violence. Among the individuals from the court sample, 3% had experienced mutual violent control, 68% had experienced intimate terrorism, 0% had experienced violent resistance, and 29% had experienced situational couple violence. Among the individuals from the shelter sample, 0% had experienced mutual violent control, 79% had experienced intimate terrorism, 2% had experienced violent resistance, and 19% had experienced situational couple violence. Therefore, the presence of control in couples' relationships differs widely by type of sample.

Two recent studies have examined Johnson's (2006) typology in adolescent and emerging adult samples. Using a sample of 3,745 adolescents from the U.S. Northeast, Zweig, Yahner, Dank, and Lachman (2014) reported the following rates among adolescents who reported IPA in their relationships: according to female participants, 1%

had experienced mutual violent control, 7% had experienced intimate terrorism, 6% had experienced violent resistance, and 86% had experienced situational couple violence. According to male participants, 4% had experienced mutual violent control, 11% had experienced intimate terrorism, 6% had experienced violent resistance, and 80% had experienced situational couple violence.

In a sample of 1,104 university students from England, Bates, Graham-Kevan, and Archer (2014) reported the following prevalence rates for Johnson's typology: among female participants, 28% had experienced mutual violent control, 11% had experienced intimate terrorism, 8% had experienced violent resistance, and 53% had experienced situational couple violence. According to male participants, 40% had experienced mutual violent control, 7% had experienced intimate terrorism, 13% had experienced violent resistance, and 40% had experienced situational couple violence. Thus, Bates and colleagues' (2014) and Zweig, Yahner, and colleagues' (2014) samples more closely resembled Johnson's (2006) community sample than his court or shelter samples. These studies provide support for the generalizability of Johnson's typology, which was originally created with samples of married women, to other age groups and both genders. It is noteworthy, however, that higher rates of mutual violent control and violent resistance were reported in adolescent and young adult samples compared to Johnson's (2006) community sample of women. Through the present study, I further extended these findings by applying Johnson's typology to a sample of Canadian emerging adults to examine whether or not comparable rates would be found.

Control and cyber IPA. As research on cyber IPA is burgeoning, researchers have also begun to examine its relation with coercive control. Melander (2010) surveyed five focus groups of university students (60% women). The students were instructed to

discuss IPA in relation to technology. The students' discussion included examples of all four of Johnson's (2006) IPA relationship types in relation to cyberspace. For instance, participants described the possibility of one partner using incessant text messaging to control and abuse their partner, which resembles intimate terrorism. Other participants described situations in which both partners used technological devices to control and harass each other (i.e., mutual violent control). Therefore, Melander's (2010) study suggested that Johnson's typology can be applied to cyberspace among university students. Similar to Melander (2010), Fritz and her colleagues (2016) identified aspects of coercive control in cyber IPA relationships. Furthermore, Fritz et al. (2016) found that the victims of cyber IPA whose partners were also controlling had reduced psychological functioning compared to those participants whose partners were noncontrolling. These findings demonstrate the importance of examining coercive control in cyber IPA, especially because research suggests that the consequences may be more adverse for victims in controlling and abusive relationships (Ansara & Hindin, 2011; Coker et al., 2002; Johnson & Leone, 2005). The above findings also demonstrate that Johnson's typology of IPA can be applied to samples of emerging adults.

Johnson's typology and relationship quality. There are the only two known published studies that have examined the relation between Johnson's typology and couples' relationship quality, and both were based on samples of married or divorced women. Johnson, Conklin, and Menon (2002) conducted a study with 272 married/divorced women that examined the effects of experiencing different types of IPA. Women whose IPA relationships were characterized as intimate terrorism according to Johnson's (2006) typology had lower levels of satisfaction with their relationships compared to women whose romantic relationships were described as being situational

couple violence. In addition, another study found that although women stayed committed to their abusive partner, the rates of commitment varied among Johnson's different types of IPA relationships (Johnson & Leone, 2005). Specifically, women who experienced intimate terrorism left their partners multiple times whereas those who experienced situational couple violence did not. Thus, these findings indicate that coercive control in a relationship is related to low relationship quality—at least within marital relationships. The present study extended these findings to emerging adults' level of relationship satisfaction and commitment in their current dating relationships.

Johnson's typology and negative physical and mental health. In addition to the examination of Johnson's typology in relation to couples' satisfaction and commitment, recent research has also examined the effect different types of IPA have on victims' mental and physical health. For example, Coker and colleagues (2002) accounted for verbal abuse and control as two aspects of psychological in-person IPA, and they found that the control aspect was more strongly related to mental and physical health problems (e.g., depressive symptoms, alcohol and drug use, chronic mental illness, and being injured) than the verbal forms of psychological aggression. Furthermore, another study based on data from 1,131 participants (60% women) who took part in the Statistics Canada's 2004 General Social Survey determined that the majority of the negative health outcomes, such as fear, sleeping problems, and depression were worse for those participants who were in abusive and controlling relationships than those in abusive but noncontrolling relationships (Ansara & Hindin, 2011). In 2005, Johnson and Leone determined that women who were in intimate terrorism relationships, compared to those who were in situational couple violence relationships, experienced higher rates of posttraumatic stress and physical injuries. Although these two groups did not experience

significantly different rates of depressive symptoms, women in relationships with some form of partner aggression experienced a greater amount of depressive symptoms than women who were not in IPA relationships. Once again, although these studies examined participants who were generally older than emerging adults, they are the only known studies to examine the relation between Johnson's typology and health. Thus, the above findings guided the present study's hypotheses.

Psychological Abuse versus Coercive Control

One limitation of past research, including studies conducted by Johnson (1995, 2006), is that measures of emotional, psychological, and sexual aggression have been used as measures of coercive control. However, some researchers have argued that behaviours can be aggressive or abusive and not be controlling (Dutton & Goodman, 2005). With coercive control, perpetrators often use multiple methods (e.g., withholding money or enacting abuse) to obtain submission from their partners (Dutton & Goodman, 2005; Stark, 2007), whereas psychological IPA consists of nonphysical methods to produce mental or emotional pain in a partner (e.g., verbal harassment, public humiliation, exclusion, or neglect). Although psychological IPA can be a method perpetrators use to gain control over their partners, it is not in itself controlling unless it is specifically done to obtain obedience.

Because the literature has generally associated control with psychological aggression, many researchers assess control through psychological IPA measures (Dutton & Goodman, 2005). However, Dutton and Goodman (2005) explained how using psychological IPA measures to assess control provides an inaccurate representation because the measures contain items of aggressive acts that do not take into consideration their ability to gain or maintain control over their partner. Additionally, such measures do

not separate coercion from noncontrolling psychological abuse, and although psychological IPA acts can be used to control victims, psychologically aggressive acts are not control tactics unless the acts are the consequences of disobedience.

Other research has also examined the disparity between general psychological aggression and controlling behaviours. For example, Black and colleagues (2011) described psychological aggression as consisting of two aspects: expressive and controlling forms of aggression. These authors described expressive aggression as a situation in which a person uses “name calling, insult[s] or [humiliation against] an intimate partner,” whereas control aggression included, “behaviors that are intended to monitor and control or threaten an intimate partner” (p. 37). Consistent with this description, Coker and colleagues (2002) found evidence that there were expressive and control aspects to psychological aggression. They conducted an exploratory factor analysis on the 13-item Power and Control Scale from the National Violence Against Women Survey. The results indicated that the items loaded onto two factors, one that represented expressive aggression and another that represented power and control. Examples of items determined as expressive aggression were “shouts or swears at you” and “calls you names or puts you down in front of others.” Examples of items determined as control aggression included “prevents you from working outside the home” and “insists on knowing who you are with at all times.”

Fritz and her colleagues (2016) similarly determined, through a factor analysis, that psychological cyber IPA consisted of two factors, verbal abuse and coercive control. The above findings are consistent with Dutton and Goodman’s (2005) model of coercive control. The authors explained that in order to be considered coercive control there must be a demand and a threat. Therefore, psychological aggression cannot be considered

control by itself. Control is a process consisting of more than one variable and psychological abuse is just one symptom of that process. In addition, it would be important to distinguish between expressive and control forms of psychological aggression to accurately interpret the findings, which the present study did.

Acceptance of Partner Aggression

In addition to control, another factor that has been studied in relation to IPA is acceptance of IPA (Cate, Henton, Koval, Christopher, & Lloyd, 1982; Deal & Wampler, 1986; Silverman & Williamson, 1997; Simon et al., 2001; Stith, Smith, Penn, Ward, & Tritt, 2004). Both Cate and colleagues (1982) and Deal and Wampler (1986) demonstrated a relation between attitudes accepting of IPA and the presence of partner aggression, as both groups of authors determined that male and female university students who have had in-person IPA in their romantic relationships were more likely to be accepting of IPA than those who have not experienced in-person IPA. More recently, Simon and colleagues (2001) conducted a nationally representative study of approximately 5,000 adults, ages 18 years or older, from the U.S. and determined that participants whose intimate partners had victimized them during the course of the prior 12 months held more accepting attitudes towards in-person IPA compared to participants who had not experienced in-person IPA in that time period.

Researchers have also found this relation with perpetrators (Cauffman, Feldman, Jensen, & Arnett, 2000; Eaton & Matamala, 2014; Reitzel-Jaffe & Wolfe, 2001). Each set of authors examined a large number of university students and found that participants who were more accepting of in-person IPA also were more likely to perpetrate physical, sexual, and psychological abuse against their intimate partners compared to participants who were less accepting of in-person IPA. Therefore, both victims and perpetrators of

IPA tend to be more accepting of IPA than individuals who are not in abusive relationships.

Reyes and Foshee (2013) extended these findings by collecting data from a younger sample, 559 male students in grades eight and nine. It is noteworthy to mention that these authors determined that male students who were more accepting of sexual in-person IPA were also more likely to use controlling behaviours against their intimate partners compared to male students who were less accepting of sexual in-person IPA. Thus, this finding provides preliminary evidence that acceptance of IPA may be related to relationships characterized by coercive control (e.g., intimate terrorism).

When examining the temporal relation between attitudes supporting IPA and IPA, Fincham, Cui, Braithwaite, and Pasley (2008) found that positive attitudes towards IPA predicted higher levels of psychological aggression 14 weeks later in a sample of university students. In addition, these authors also identified a significant negative correlation between participants' acceptance of IPA and their relationship satisfaction, such that participants who were more condoning of IPA had lower relationship satisfaction compared to participants who were less condoning of IPA. These findings signify the importance of examining acceptance of IPA and IPA as their relation to one another may contribute to potential consequences (such as relationship quality and physical and mental health). The present study extended the above-discussed findings by being the first known study to examine acceptance of IPA as a moderator of the association between Johnson's typology and participants' relationship quality and health.

Current Study

The current study aimed to apply Johnson's typology (1995, 2006) to cyberspace. Additionally, it aimed to examine the relation between cyber IPA, acceptance of IPA, and

health and relationship functioning. Specifically, the study examined whether there was an interaction between Johnson's typology of cyber IPA and acceptance of IPA (i.e., moderation), and whether the interaction was predictive of participants' relationship quality and health. The following hypotheses were tested through the study.

Hypothesis 1a. The first hypothesis was that a higher number of participants would fall in each of Johnson's four IPA typology categories for cyberspace compared to in-person. Although previous research has shown that cyber psychological IPA has near equivalent prevalence rates with in-person psychological IPA and higher prevalence rates than physical and sexual in-person IPA, the present study combined all forms of in-person IPA (physical, sexual, and psychological) in order to create Johnson's typology. Thus, this hypothesis was expected given that cyber IPA has higher rates compared to overall in-person IPA and because moral disengagement and online disinhibition theories suggest that online mediums allow for less moral justification to inflict abuse than in-person abuse (Pornari & Wood, 2010). Given that this study used a general survey to collect data from emerging adults in dating relationships, it was expected that the prevalence rates of Johnson's typology would be more similar to rates found in the community sample that he and others have examined (Johnson, 1995; Zweig, Yahner, et al., 2014). Thus, the rate of intimate terrorism is likely to be reduced, as I am not sampling participants from shelters or the courts. Nevertheless, it is still important to examine Johnson's typology in reference to emerging adults.

Hypothesis 1b. In line with Johnson's (2006) theory and related research (e.g., Bates et al., 2014; Zweig, Yahner, et al., 2014), it also was hypothesized that there would be approximately equal percentages of women and men in situational couple violence, but more women than men in the intimate terrorism and violent resistance categories. Family

violence researchers tend to assess situational couple violence, and they have generally found support for gender symmetry (Desmarais et al., 2012; Sabina & Straus, 2008). In contrast, feminist researchers generally assess relationships that contain higher levels of IPA and ones in which women are victims and men are perpetrators (i.e., intimate terrorism and violent resistance; Dobash et al., 1998). In addition, given that two recent studies have found higher rates of mutual violent control to be reported by men compared to women (Bates, et al., 2014; Zweig, Yahner, et al., 2014), it was hypothesized that men would report higher rates of mutual violent control than women.

Hypothesis 2. The second hypothesis posited that cyber IPA would be significantly associated with low relationship satisfaction and commitment and poor physical and mental health for men and women, especially for individuals in high control relationships (e.g., intimate terrorism). This hypothesis was expected given findings from previous research discussed above, which have shown that both cyber and in-person IPA are related to poor mental and physical health and low relationship quality (Coker et al., 2002; Fritz et al., 2016; Simmering McDonald, 2012; Weston, 2008). Throughout the study of IPA, the general consensus is that although women and men may have equivalent rates of victimization, women are more negatively impacted by the aggression (Caldwell, Swan, & Woodbrown, 2012) and research has generally found this to be true (Caldwell et al., 2012; Romito & Grassi, 2007). Despite this, there are some inconsistencies. Some research has shown that IPA equally impacts women and men (Amanor-Boadu et al., 2011) and some has shown that it depends on the forms of IPA being examined (psychological aggression versus physical aggression; Burrus & Cobb, 2011; Sabina & Straus, 2008). Coker et al. (2002) determined that being in a controlling IPA relationship negatively impacted both men and women; however, controlling

behaviours were related to higher rates of mental illness and greater perceived negative impact on physical health for men but not for women. Despite inconsistencies, it was hypothesized that both men and women in high cyber IPA and high cyber control relationships would experience low relationship and health quality. This was predicted because the present study's methods are similar to those used by family violence researchers who have found that high levels of psychological IPA are related to lower relationship quality and health compared to low levels of psychological IPA for women and men (Burrus & Cobb, 2011; Sabina & Straus, 2008).

Hypothesis 3. Third, I hypothesized that there would be an interaction (i.e., moderating effect) between Johnson's typology and acceptance of IPA in predicting low relationship satisfaction and commitment and physical and mental health for both men and women. This was an exploratory hypothesis because there currently is no known research on the relation between acceptance of IPA, control, and relationship quality and health. Participants who are accepting of IPA and are in abusive and controlling relationships may experience low health and relationship quality. Alternatively, the direction of the effect could be reversed (i.e., participants who are accepting of IPA and are in abusive and controlling relationships may have better health and relationship quality than those who are in aggressive relationships but do not hold accepting attitudes about IPA). That is, individuals who are accepting of the IPA in their relationship may be less negatively impacted by their partner's aggression, than individuals not accepting of IPA, possibly because they may not perceive the aggression to be an issue of concern. This hypothesis was made for both genders because previous research has shown that women and men who have experienced IPA are more accepting of IPA than women and men who have not experienced IPA.

Hypothesis 4. Fourth, I hypothesized that both women's and men's in-person typology would be congruent with their cyber typology. For example, if participants' relationships were categorized as situational couple violence based on their in-person IPA and in-person control scores, their relationships would also be categorized as situational couple violence based on their cyber IPA and cyber control scores. Although some research has suggested that cyber IPA has higher prevalence rates compared to overall in-person IPA (i.e., combined physical, sexual, and psychological) as suggested by the moral disengagement and online disinhibition theories, the majority of research has demonstrated that cyber and in-person IPA are positively correlated to each other. This hypothesis was made for both women and men because previous research has found that women's and men's cyber IPA perpetration is predictive of their in-person IPA perpetration (Schnurr et al., 2013).

Implications

This study adds to the current literature by applying Johnson's (2006) typology to cyber IPA and determining the association between cyber IPA, relationship satisfaction and commitment, and physical and mental health. It also examines the influence acceptance of IPA has on the relation between cyber IPA and relationship and health quality. Furthermore, the present investigation extends the above-discussed findings by (a) advancing Johnson's typology to a sample of Canadian emerging adults in dating relationships, (b) assessing both psychological and sexual cyber IPA, (c) being the first to examine the moderating effect of the acceptance of IPA, (d) using a more accurate measure of coercive control, and (e) assessing physical and mental health and relationship satisfaction and commitment in the same study. Although there is currently a paucity of research on the potential consequences of cyber IPA, it is important to examine because

this information can aid the development of more specific IPA prevention and intervention programs. This study may also have implications for a range of professionals, including policy makers, clinical psychologists, law enforcement, and women's shelter employees.

CHAPTER II

Methods

Participants

The original sample consisted of 213 participants recruited mainly from the University of Windsor through advertisements (see Appendices A1 and A2) placed on the Sona online research participant recruitment system used by the Psychology Department participant pool. The participant pool is a group of undergraduate students who can take part in psychological research in exchange for extra credit in eligible courses. Separate advertisements were placed for women and men to ensure that a near equal number of women and men were recruited. Recruitment of additional male participants outside of the participant pool was implemented via posters, snowballing (word-of-mouth), email, and postings on social media sites due to the low number of men who signed up for the study (see Appendix B). Four individuals were removed from the study due to invalid data (i.e., they failed 3 or more validity checks). Thus, the final sample consisted of 209 participants (109 women and 100 men) between the ages of 18 to 25 who were currently in a heterosexual relationship for at least three months. Unlike female participants who were recruited entirely from the participant pool, the male sample mainly consisted of university students recruited from outside the participant pool ($N = 76$; 76%).

In response to an open-ended question about their ethnicity, the majority of participants identified with being European/White (e.g., French, Dutch, Italian, and White; 67.3%), followed by Asian (including South, Southeast, East, and West Asian; 19.2%), Black (e.g., African, Black, Caribbean, Nigerian, and Libyan; 4.8%), Mixed (4.8%), and Other (e.g., Canadian and Latin; 3.9%). Participants were primarily Christian (50%) or Atheist/Agnostic (35.4%), followed by Muslim (7.8%), and Other (6.8%). The

majority of participants had completed at least one or more years of university or college (93.7%). Participants reported having dated approximately three people in their lifetime, and having been sexually involved with approximately four people in their lifetime. On average, participants were 21.15 years old and spent 3.08 hours on social media, sent 101.12 texts, sent 4.76 emails, and spent 48.6 minutes on the phone per day.

The first 21 participants (10%) completed the online survey on computers in an on-campus computer laboratory, and then the study methodology was changed so that participants ($N = 188$; 90%) completed the same online survey in a location of their choosing. To examine if the two samples differed on key demographic and study variables of interest, I ran a series of independent t tests and chi-square tests. There were no significant differences between the participants that completed the study in the lab or in a place of their choosing based on their age and ethnicity, although there were significant differences based on gender and years of school completed. Individuals who completed the study in the lab were more often female and had completed fewer years of education. However, there were no significant differences between individuals who completed the study in the lab or online from a place of their choosing on any of the main variables or on the time to complete the study.

To determine if the male participants who were recruited via the participant pool versus other means differed, independent t tests and chi-square tests were conducted. There was no significant difference between the two groups of male participants on age or ethnicity. However, a higher percentage of male psychology majors were recruited via the participant pool compared to other recruitment techniques. In addition, men who were recruited outside of the pool were more likely to have completed more years of education. However, the two groups did not significantly differ on any of the main variables (viz.,

in-person IPA, cyber IPA, in-person control, cyber control, acceptance of cyber IPA, relationship satisfaction, relationship commitment, mental health, and physical health).

Inclusion criteria. In order to be included in the study, participants had to have been in a heterosexual romantic relationship for at least three months. A three-month interval was chosen, as has been done in previous research (Gleason, 2005; Horvath, 2004; Schneiderman, Zagoory-Sharon, Leckman, & Feldman, 2012), to allow for direct comparison across studies. The sample was restricted to emerging adults (i.e., between the ages of 18 to 25; Arnett, 2000), because technology usage typically differs between younger and older adults (Olson, O'Brien, Rogers, & Charness, 2011). Only those in heterosexual dating relationships were recruited as research suggests that aggression that occurs in heterosexual and same-sex relationships may serve different functions and should thus be examined separately (Anderson, 2005). Participants were also excluded if they were married/common law or if they had been in previous studies conducted in the Healthy Relationships Research lab in order to avoid bias.

Power. A priori power analyses were conducted using the program G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007). To determine the required sample size for a multiple regression analysis (MRA) with three to eight predictor variables (described below), a power of .80, alpha value of .05, and an effect size of $f^2 = 0.10$ were specified. An effect size of 0.10 was used as a low estimate because no effect sizes for the relation between the IPA and acceptance of IPA interaction and relationship or health quality were available in the existing literature. The analysis estimated that a total of 114 to 159 participants would be recommended. In addition, G*Power specified a sample size of 98 for a contingency table with a chi-square test with nine degrees of freedom and an effect size of $w = 0.40$. An effect size of 0.40 was used because past research suggests the

relation between in-person and cyber IPA has a medium effect size. Last, both of these sample sizes would be sufficient with Ward's cluster analysis because Ward's method does not have a minimum sample requirement.

Procedure

Participants were able to sign-up for one of the study's timeslots through the online Sona system or via email with the researcher if recruited outside the pool. Originally participants were required to attend one in-laboratory session at the University of Windsor; however, due to the low participation rate, the format was changed and the participants were able to complete the study online in a place of their choosing. The change in format was not substantial as all participants completed the study online, whether they completed the study in the laboratory or online in another place of their choosing. The study took approximately 40 minutes to complete. After logging onto the website (provided by the researcher either in-person in the lab or in an email for online participants), participants reviewed the consent form (see Appendix C). For participants who declined to participate, they were thanked and directed out of the study. For participants who provided consent, they then completed the questionnaires (listed below; see Appendix D). Demographic questions were answered first, then the rest of the questionnaires were randomized to control for potential order effects. After participants completed the study, the main study objectives were presented. Participants were also provided with information regarding community resources (see Appendix E). Participants were awarded 1 bonus point for being in the study to go towards any eligible courses. If participants were not eligible to receive bonus points because they were recruited outside of the pool, they were entered into a draw for the chance to receive one of four \$50 Amazon gift cards. After the details of the study were finalized, it was piloted with

volunteer clinical graduate students and members of the Healthy Relationships Research lab to identify any issues or technological problems before beginning data collection with participants. The study received clearance from the institutional Research Ethics Board.

Measures

Demographics. Participants were asked to report on their gender, ethnicity, age, education level, and religious affiliation. In addition, to determine their dating history, participants reported on the age they first started dating, the number of dating partners they have had, the average length of their past relationships, the number of sexual partners they have had, and if any of their previous relationships included IPA. Participants also reported on their current relationship by reporting the length of the relationship, if the relationship was sexual in nature, and their relationship/cohabitation status. Lastly, participants were asked about their technology usage (e.g., hours per day using social media, texting, emails). This information was mainly used for descriptive purposes; however, the information was also used to check for potential covariates if the variables were correlated with the predictor and outcome variables.

In-person IPA. The victimization and perpetration scales of the Conflict in Adolescent Dating Relationships Inventory (CADRI; Wolfe et al., 2001) were used to assess in-person IPA. I amended the instructions to include a statement indicating that participants should only report on in-person acts of IPA and not cyber IPA on this questionnaire. Each scale contains 35 items measuring threatening (5 items; e.g., “My partner destroyed or threatened to destroy something I valued”), emotional (8 items; e.g., “My partner brought up something bad that I had done in the past”), relational (4 items; e.g., “My partner spread rumors about me”), sexual (4 items; e.g., “My partner forced me to have sex when I didn’t want to”), and physical (4 items; e.g., “My partner threw

something at me”) in-person IPA that has occurred within the past three months. The CADRI uses a 4-point Likert-type scale from 0 (*never*) to 3 (*often*), and has shown adequate reliability ($\alpha > .83$) and construct validity (Wolfe et al., 2001). Higher scores represent more experiences of in-person IPA. Two scores (i.e., one for victimization and one for perpetration) for each participant were calculated by summing the mean of each subscale of aggression. In the current study, internal consistency was good (perpetration $\alpha = .80$; victimization $\alpha = .83$).

Cyber IPA. The Cyber Dating Abuse Questionnaire (CDAQ) developed by Borrajo, Gámez-Guadix, Pereda, and Calvete (2015) was used to assess IPA enacted through technology. This measure contains a 20-item victimization scale and a 20-item perpetration scale. Each scale is made up of two factors, Direct Aggression (11 items; e.g., “threatening to spread secrets or embarrassing information using new technologies”) and Monitoring (9 items; e.g., “excessive calls to control where you are/I am and with whom”). Higher scores for this scale indicated more cyber IPA victimization or perpetration. This measure uses a 6-point Likert-type scale from 1 (*never*) to 6 (*always: more than 20 times*) and has been shown to be reliable (α s ranged from .73 to .87) and to have convergent validity with offline psychological and physical dating aggression and cyberbullying measures (Borrajo et al., 2015). In addition, the sexual cyber abuse scale from Zweig, Yahner et al.’s (2014) study was used to measure sexual cyber IPA. This scale contains 8 items (4 victimization and 4 perpetration; e.g., “pressured me to send a sexual or naked photo of myself”), uses a 4-point Likert-type scale from 0 (*never*) to 3 (*very often*), and has demonstrated good reliability ($\alpha = .81$ to $.89$; Zweig, Yahner et al., 2014). Because the two measures have different rating scales, participants’ victimization and perpetration scores were first converted to *z* scores and then averaged across the two

measures, creating two separate scores (i.e., one for victimization and one for perpetration). In the current study, the internal consistency was good (perpetration $\alpha = .79$; victimization $\alpha = .86$). In addition, the two measures were significantly correlated with each other, $r(202) = .26$; $p < .001$ for perpetration subscales and $r(205) = .19$; $p = .006$ for victimization subscales, demonstrating convergent validity. Although the two measures were combined to create an overall cyber IPA score, the prevalence of both cyber psychological and sexual IPA were reported. One item from the CDAQ that assessed cyber sexual IPA was excluded from the CDAQ and included with the sexual cyber abuse scale when calculating cyber psychological and sexual IPA prevalence rates.

Coercive control. An adaptation of Dutton, Goodman, and Schmidt's (2005) Coercion in Intimate Partner Relationships (CIPR) measure was used. This measure consists of 110 items concerning demands, threats, surveillance, and response to demands for both victimization and perpetration. Sample items include "maintaining a certain weight" and "spied on, followed, or stalked you." Participants indicated whether each item has occurred within the last 3 months (1 = *yes*, 0 = *no*) separately for cyberspace and in-person. Separate perpetration and victimization total scores for cyber and in-person coercive control were calculated by summing the item responses on each subscale separately. Higher scores indicate a higher amount of coercive control. This coercive control measure has been shown to have high reliability ($\alpha \geq .86$) and validity (Dutton et al., 2005). The internal consistencies for this study were excellent for both the cyberspace (perpetration $\alpha = .93$; victimization $\alpha = .94$) and in-person (perpetration $\alpha = .92$; victimization $\alpha = .94$) control items.

Attitudes towards cyber IPA. The Intimate Partner Violence Attitude Scale—Revised (IPVAS-R; Fincham et al., 2008) was used to assess participants' acceptance of

cyber IPA. This measure includes 17 items that are assessed on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Example item: “During a heated argument, it is okay for me to say something just to hurt my partner on purpose.” Three items were excluded because they were not applicable to cyberspace (e.g., “It would not be appropriate to ever kick, bite, or hit a partner with one’s fist”). A total score for each participant was calculated by summing the item responses. Higher scores represent more acceptance of cyber IPA acts. The IPVAS-R has been shown to have satisfactory reliability (α s ranged from .71 to .91) and validity (Fincham et al., 2008). This measure was adapted to represent cyber IPA by stating in the instructions for participants to only report situations that occurred in cyberspace. For the current study, the internal consistency was adequate ($\alpha = .70$).

Relationship quality. The 9-item Satisfaction and 7-item Commitment scales of the Investment Model Scale (Rusbult, Martz, & Agnew, 1998) were used to assess relationship quality. Sample items for satisfaction include “I feel satisfied with our relationship” and “Our relationship makes me very happy.” Sample items for commitment include “I feel very attached to our relationship-very strongly linked to my partner” and “I want our relationship to last forever.” The first 5 items of the Satisfaction scale use a 4-point Likert scale ranging from 1 (*not at all*) to 4 (*completely*) and the last 4 items of the Satisfaction scale and all of the items on the Commitment scale use a 9-point Likert-type scale ranging from 0 (*not at all*) to 8 (*completely*). Composite scores for each scale were calculated by computing the average scores for the satisfaction z scores and the average scores for the commitment items. Higher scores indicate higher relationship satisfaction and commitment. The Investment Model scales have demonstrated strong reliability and validity (Rusbult et al., 1998). Alphas have ranged from .91 to .95 for the

Commitment scale and .92 to .95 for the Satisfaction scale. The internal consistencies for this study were good (satisfaction $\alpha = .92$; commitment $\alpha = .84$).

Physical and psychological functioning. Physical health was measured using the Perceived Health Measure (Vinokur, Pierce, Lewandowski-Romps, Hobfoll, & Galea, 2011a) and the Physical Functioning Measure (Busseri, Choma, & Sadava, 2009a). Each measure has 4 items using either a 4-, 5-, or 7-point Likert-type scale. Sample questions include: “In general, would you say your health was . . . excellent, very good, good, fair, or poor?” A higher total score indicates a greater degree of physical health problems and greater impact of these health problems on participants’ daily functioning. A total score for each participant was calculated by summing the item responses. Previous studies have found adequate reliability with the Perceived Health Measure ($\alpha = .78$; Vinokur, Pierce, Lewandowski-Romps, Hobfoll, & Galea, 2011b) and the Physical Functioning Measure ($\alpha = .80$ to $.82$; Busseri, Choma, & Sadava, 2009b). In the current study, the internal consistency was adequate ($\alpha = .77$).

The Kessler 6 (K6; Kessler et al., 2002a) was used to measure psychological functioning. This measure consists of six 5-point Likert-type questions (e.g., “...you feel so depressed that nothing could cheer you up?”), which range from *all of the time* (5) to *none of the time* (1). Higher scores represent higher psychological distress. A total score for each participant was calculated by summing the item responses. The K6 has demonstrated good reliability in previous studies ($\alpha = .89$; Kessler et al. 2002b). The K6 had good internal consistency in this study ($\alpha = .86$).

Social desirability scale. The Marlowe-Crowne Social Desirability Scale Short-Form C (MCSDS Form C Reynolds, 1982) was used to determine if participants tend to respond in a socially desirable manner. This measure contains 13 true (2) or false (1)

statements (e.g., “I sometimes feel resentful when I don't get my way”), and was included as a potential control variable. A total score for each participant was calculated by summing the item responses. Higher scores represent responding in a more socially desirable manner. The MCSDS Form C has shown satisfactory reliability ($\alpha = .89$) and high concurrent validity with the original measure (Fischer & Fick, 1993; Reynolds, 1982). In this study the internal consistency was adequate ($\alpha = .70$).

Validity questions. Seven validity check questions were randomly interspersed within this study, approximately one in each measure described above, in order to determine if participants were dedicating their full attention toward the task. An example item is “If you are paying attention, please choose response 5.”

CHAPTER III

Results

Data Cleaning

The statistical analyses were conducted using SPSS (Version 21). Before any statistical analyses were conducted, I examined the extent of missing and valid data. Forty-two participants failed one validity check, ten participants failed two validity checks, and four participants failed three or more of the seven validity checks. Only the participants who failed the majority of the validity checks (i.e., three or more) were removed based on the accepted standard statistical practice. I then computed the composite scores of the main variables, and I examined the demographic and main variables for missing data. Little's MCAR test was not significant ($p > .999$), and thus the data were concluded to be missing completely at random. However, I used multiple imputation to replace missing data for two reasons. First, up to 25% of participants had missed one or more items on the coercive control measure. Because this was one of the measures being entered into the cluster analysis, which requires complete data, I imputed the data. Second, in order to maintain the power required for the following analyses imputation was necessary. Thus, multiple imputation with ten imputations was run at the composite level (Graham, 2009). Each missing value was replaced by the average of the ten imputations in order for the cluster analysis to be run (Soley-Bori, 2013).

Next, I assessed the assumptions of multiple regression. Sample size was found to be adequate when men and women were combined. It is recommended to have at least 15 participants per predictor (Cohen, Cohen, West, & Aiken, 2003) and I had approximately 26 to 70 participants per predictor.

When I examined the z scores of the main variables, 23 outliers were found (critical value: $z = 3.29$). Each outlier was windsorized (i.e., replaced with the highest value whose z score was below 3). Outliers were examined to determine if they differed from nonoutliers. Individuals with outlier scores did not vary from others on age, education level, or ethnicity; however, individuals with outliers were 3 times more likely to be male than female. No influential observations were found using Cook's distance.

I assessed normality by examining the skewness and kurtosis values, histograms, and Shapiro-Wilk test for each dependent variable. Although none of the dependent variables exceeded the critical values for skewness and kurtosis (± 2 and ± 3 , respectively), each Shapiro-Wilk test was significant and each histogram showed skewness.

Furthermore, when each skewness value was divided by its standard error each value exceeded the critical value of ± 1.96 . Thus, I implemented log10 transformations for each dependent variable. Because satisfaction and commitment were negatively skewed, I reflected, transformed, and then reflected them again for interpretation. Transformation of both physical and mental health appeared to address the issue; however, transformation did not adequately address skewness for relationship satisfaction and commitment.

Consequently, I converted the satisfaction and commitment variables into dichotomous variables by creating two groups: the mode = 1 and all other values = 0 (Soucie, 2016, personal communication; Tabachnick & Fidell, 2013). The mode for satisfaction was 0.63 and 9.00 for commitment. Because the mode in each case was the highest value, 1 = high satisfaction/commitment and 0 = low satisfaction/commitment. I used a mode split because traditional ordinary least squares procedures (e.g., linear regression) model the average variability from the measure of central tendency which is typically the mean. However, in the current sample, neither the mean nor the median was an adequate

approximation of the present sample's central tendency. Instead, the mode was the best estimate of central tendency for this sample.

In addition, I assessed linearity, homoscedasticity, and independence of errors by creating a residual scatter plot with standardized predicted values (ZPRED) as y and standardized residuals (ZRESID) as x , which demonstrated no violations. I also assessed independence of errors using the Durbin-Watson test, and it suggested no violations, as well. Last, multicollinearity was assessed, and it was not violated (tolerance values were greater than .1 and VIF values were less than 10).

Preliminary Analyses.

The means, standard deviations, and ranges for each of the measures are presented in Table 1. Prevalence rates for IPA and control are in Table 2.

Bivariate correlations. I examined all potential covariates (i.e., gender, age, education level, dating history, and technology usage) by correlating them with the dependent and independent variables (see Appendix F). Pearson correlations between each of the covariates and main variables are presented in Table 3. Two covariates were found. Social desirability was significantly correlated with both the independent (total cyber IPA, total cyber control, and acceptance of cyber IPA) and the dependent variables (relationship satisfaction, physical health, and mental health). Thus, I controlled for it in the regression analyses with relationship satisfaction, physical health, and mental health as dependent variables in hypotheses 2 and 3. In addition, gender was significantly correlated with cyber IPA, relationship commitment, physical health, and mental health. Specifically, men reported more cyber IPA, less relationship commitment, and less physical and mental health problems compared to women. Although I had intended to conduct analyses separately for men and women for hypotheses 2 and 3, due to the

sample size (109 women, 100 men), I only examined men and women separately for the regressions with relationship commitment, physical health, and mental health as the dependent variables.

Cyber IPA, cyber control, and acceptance of cyber IPA were all positively and significantly correlated with one another. Participants who had more cyber control in their relationships were less satisfied in their relationships and had more mental health problems than participants who reported less cyber control. In addition, participants who were satisfied and committed in their relationships reported less mental health problems.

Table 1

*Means, Standard Deviations, and Ranges of Key Variables
and Potential Covariates*

Variable	Mean	SD	Minimum	Maximum
In-person perpetration	5.86	0.81	5.00	8.53
In-person victimization	5.87	0.81	5.00	8.85
Cyber IPA perpetration	-0.03	0.69	-0.65	2.55
Cyber IPA victimization	-0.04	0.60	-0.41	2.06
Cyber control perpetration	6.67	7.43	0.00	29.00
In-person control perpetration	7.00	6.99	0.00	28.00
Cyber control victimization	10.13	9.79	0.00	40.00
In-person control victimization	13.83	11.02	0.00	42.00
Acceptance of cyber IPA	25.26	5.87	14.00	41.00
Satisfaction	0.01	0.74	-2.38	0.63
Commitment	7.88	1.37	3.29	9.00
Physical health	17.58	5.58	8.00	36.00
Mental health	11.26	3.85	6.00	23.00
Social desirability	19.25	2.88	13.00	25.00

Note. Cyber IPA and satisfaction values may be negative because they were based on *z* scores.

Table 2

Prevalence Rates for Cyber and In-person Intimate Partner Aggression (IPA) and Coercive Control Perpetration and Victimization

Type of aggression	IPA		Control	
	Perpetration (%)	Victimization (%)	Perpetration (%)	Victimization (%)
Cyber	58.8	52.2	71.3	81.3
Psych.	54.6	47.6	--	--
Sexual	12.9	13.9	--	--
In-person	88.0	88.0	76.6	90.0

Note. Psych. = Psychological. Cyber is psychological and sexual cyber IPA combined.

Table 3

Bivariate Correlations among Independent, Dependent, and Covariate Variables

Variable	1	2	3	4	5	6	7	8	9
1 Gender	--								
2 Social desirability	.03	--							
3 Cyber IPA	.16*	-.23**	--						
4 Cyber control	.06	-.30**	.47**	--					
5 Acceptance of cyber IPA	-.08	-.15*	.21**	.27**	--				
6 Satisfaction	-.07	.29**	-.24**	-.19**	-.07	--			
7 Commitment	-.16*	.09	-.17*	-.06	-.04	.31**	--		
8 Physical health	-.33**	-.20**	.01	-.02	.07	-.09	-.06	--	
9 Mental health	-.16*	-.34**	.33**	.21**	.08	-.24**	-.17*	.47**	--

Note. * $p < .05$. ** $p < .01$.

Cluster analysis. I created the cyber and in-person typology separately through an adaption of the method outlined in Johnson's (2006) paper. Therefore, each of the following steps were carried out twice, once for cyberspace and once for in-person (see Table 4). I used Ward's method cluster analysis to classify all participants into low or high control by entering in each coercive control perpetration and victimization variables separately. I classified all participants into low or high IPA by dichotomizing each IPA perpetration and victimization variables separately (1 = low/endorsed no IPA items, 2 = high/endorsed an IPA item; Johnson 2006; Zweig, Yahner, et al., 2014). Then, based on the above scores (i.e., high vs low IPA and control) each participant was categorized into one of Johnson's typologies (situational couple violence, violent resistance, mutual violent control, and intimate terrorism). Johnson's in-person and cyber typologies were coded into two variables: one for participants' in-person typology and one for participants' cyber typology (where 0 = situational couple violence, 1 = violent resistance, 2 = intimate terrorism, 3 = mutual violent control for each). Participants that had low control and low IPA on both perpetration and victimization measures were not included in the typology. The sample size for the cyber typology was 128 and the sample size for the in-person typology was 187.

I used the typology variables to examine hypotheses 1 and 4; however, they could not be used to examine hypotheses 2 and 3 due to their limited variability. The majority of participants were classified into Johnson's (2006) situational couple violence group and therefore there was not adequate variance in the cyber typology variable to be used as an independent variable in the regression analyses. Thus, in order to determine how cyber control and cyber IPA predicted the dependent variable, I entered an interaction term (Total Cyber IPA X Total Cyber Control) into the regression instead. Total cyber IPA and

total cyber control were the sum of each participant's perpetration and victimization scores of cyber IPA and cyber control, respectively.

Table 4

Cross Tabulation of Intimate Partner Aggression (IPA) and Control

Partner 1	Partner 2		
	High control high IPA	Low control high IPA	Low control low IPA
High control high IPA	Mutual violent control	Intimate terrorism	Intimate terrorism
Low control high IPA	Violent resistance	Situational couple violence	Situational couple violence
Low control low IPA	Intimate terrorism	Situational couple violence	Not IPA

Main Analyses

I assessed hypotheses 1a and 1b by examining the frequencies of Johnson's cyber typology and comparing them to the frequencies of the in-person typology separately for men and women. Hypothesis 1a predicted that higher prevalence rates for each of Johnson's (2006) typology categories would be reported for cyberspace than in-person. Hypothesis 1b predicted that men and women would have approximately equal frequencies in situational couple violence, women would have higher rates for intimate terrorism and violent resistance than men, and men would have higher rates for mutual violent control than women for cyber and in-person typologies. These hypotheses were partially supported. The results demonstrated similar prevalence rates for situational couple violence in person and in cyberspace and higher prevalence rates for intimate terrorism in-person compared to cyberspace (contrary to hypothesis 1a), but higher prevalence rates for violent resistance and mutual violent control for cyberspace compared to in-person (as predicted) for both men and women.

A chi-square test was also run to determine if gender and typology were significantly related to one another and they were not (cyber typology, $\chi^2(3, N = 128) = 3.21, p = .36$; in-person typology, $\chi^2(3, N = 187) = 0.75, p = .86$). It is important to note that this result may be biased because the majority of men and women in cyberspace and in person were in the situational couple violence category. Thus, when the other categories were examined, women and men reported similar rates of violent resistance and mutual violent control in cyberspace and in person. In addition, women reported five times more intimate terrorism than men in cyberspace. Thus, hypothesis 1b was partially supported, as there were equivalent rates of situational couple violence for in person and cyberspace and higher rates of intimate terrorism for women for in cyberspace. However,

women did not have higher rates of violent resistance than men in person or in cyberspace, women did not have higher rates of intimate terrorism than men in person, and men did not have higher rates of mutual violent control than women in person or in cyberspace. See Table 5 for percentages.

Table 5

Percentage of Women and Men in Cyber and In-person Typologies

Typology	Women		Men	
	Cyber (%)	In-person (%)	Cyber (%)	In-person (%)
Situational couple violence	53.3	66.7	57.6	67.0
Violent resistance	9.7	4.2	12.1	5.5
Intimate terrorism	8.1	14.6	1.5	11.0
Mutual violent control	29.0	14.6	28.8	16.5

I assessed the second and third hypotheses by conducting regression analyses. The second hypothesis was that cyber IPA would be associated with reduced relationship quality and functioning—especially for men and women in high cyber control relationships (e.g., intimate terrorism). The third hypothesis was that there would be an interaction between Johnson’s typology and acceptance of cyber IPA in predicting relationship and health quality for women and men. For the dependent variables physical and mental health, linear regressions were used. For relationship satisfaction and commitment, I used bivariate logistic regressions because these two dependent variables had to be transformed into dichotomous variables due to their skewness. For each of the regressions, total cyber IPA, total cyber control, and their interaction term were entered as predictors.

I had initially planned to assess hypotheses 2 and 3 separately for men and women; however, due to low sample size I ran all the regressions with the combined data of men and women. Nevertheless, because gender was found to be a significant covariate for relationship commitment, physical health, and mental health, I also conducted separate analyses for women and men for these three dependent variables. With this method, I ran four regressions with the data of men and women combined, one for each of the four outcome variables (relationship satisfaction, commitment, physical health, and psychological functioning) for both hypotheses 2 and 3. Then six additional regressions were run for both hypotheses 2 and 3, two (i.e., women and men) for each of the dependent variables that had gender as a covariate (relationship commitment, physical health, and mental health).

Hypothesis 2 was partially supported. Each regression model was significant: satisfaction, $X^2(4, N = 209) = 31.95, p < .001$, Nagelkerke $R^2 = .22$; commitment, $X^2(3, N$

$= 209) = 9.96, p = .02$, Nagelkerke $R^2 = .07$; mental health, $F(4,204) = 11.59, p < .001$, $R^2 = .19$; and physical health, $F(4,204) = 4.36, p = .002, R^2 = .08$. See Table 6 to 9 for regression coefficients. Results based on the combined sample suggested that cyber IPA in a participant's relationship was related to lower relationship satisfaction and commitment, and more mental health problems. However, higher frequencies of cyber IPA and low frequencies of cyber control were related to more physical health problems.

Because gender was a covariate for relationship commitment, physical health, and mental health, I also examined men and women separately for those variables. Figures 1 to 3 represents the graphical depictions of the following interactions. The moderators were split into low (lowest value to 1 *SD* below the mean), medium (1 *SD* below the mean to 1 *SD* above the mean), and high (1 *SD* above the mean to the highest value) groups in order to understand the relation between the independent and dependent variables at different levels of the moderator. The interaction between cyber IPA and cyber control significantly predicted commitment for women, but not for men. For women, high frequencies of cyber control and higher frequencies of cyber IPA in a relationship was related to higher commitment; however, low and medium frequencies of cyber control with higher frequencies of cyber IPA were related to lower commitment (see Figure 1). In addition, the interaction between cyber IPA and cyber control significantly predicted physical health for both men and women. For women, low frequencies of cyber control with higher frequencies of cyber IPA were related to more physical health problems, whereas high and medium frequencies of cyber control and higher frequencies of cyber IPA were related to less physical health problems, compared to low control frequencies. For men, low and medium frequencies of cyber control with higher frequencies of cyber IPA were related to more physical health problems, but high

frequencies of cyber control and higher frequencies of cyber IPA were related to less physical health problems (see Figures 2 and 3). The interaction between cyber IPA and cyber control was not significantly related to mental health problems for men or women.

Table 6

Cyber Intimate Partner Aggression (IPA) and Control Predicting Relationship Satisfaction

Predictor	Exp(B)	<i>p</i>	95% C.I.	Wald
Social desirability	1.25	.003	[1.08, 1.44]	9.02
Cyber IPA	0.36	.015	[0.16, 0.82]	5.94
Cyber control	0.99	.646	[0.96, 1.03]	0.21
IPA X Control	1.00	.983	[0.95, 1.05]	0.00

Table 7

Cyber Intimate Partner Aggression (IPA) and Control Predicting Relationship Commitment

Predictor	Exp(B)	<i>p</i>	95% C.I.	Wald
Overall				
Cyber IPA	0.49	.007	[0.29, 0.83]	7.18
Cyber control	1.01	.426	[0.99, 1.03]	0.63
IPA X Control	1.02	.100	[1.00, 1.03]	2.71
Women				
Cyber IPA	0.29	.006	[0.12, 0.70]	7.67
Cyber control	1.03	.207	[0.99, 1.06]	1.59
IPA X Control	1.07	.002	[1.03, 1.12]	9.39
Men				
Cyber IPA	0.67	.242	[0.34, 1.31]	1.37
Cyber control	1.02	.378	[0.98, 1.05]	0.78
IPA X Control	0.98	.311	[0.95, 1.02]	1.03

Table 8

Cyber Intimate Partner Aggression (IPA) and Control Predicting Physical Health Problems

Predictor	β	p	95% C.I.	Semi-partial correlation
Overall				
Social desirability	-0.20	.005	[-0.02, -0.00]	-.19
Cyber IPA	0.19	.074	[-0.00, 0.05]	.12
Cyber control	-0.10	.196	[-0.00, 0.00]	-.09
IPA X Control	-0.26	.008	[-0.00, 0.00]	-.18
Women				
Social desirability	-0.23	.019	[-0.02, -0.00]	-.22
Cyber IPA	0.22	.115	[-0.00, 0.07]	.15
Cyber control	-0.19	.078	[-0.00, 0.00]	-.17
IPA X Control	-0.27	.034	[-0.00, 0.00]	-.20
Men				
Social desirability	-0.11	.316	[-0.02, 0.01]	-.10
Cyber IPA	0.34	.036	[0.00, 0.06]	.21
Cyber control	-0.02	.847	[-0.00, 0.00]	-.02
IPA X Control	-0.35	.022	[-0.00, 0.00]	-.23

Table 9

Cyber Intimate Partner Aggression (IPA) and Control Predicting Mental Health Problems

Predictor	β	p	95% C.I.	Semi-partial correlation
Overall				
Social desirability	-0.27	.000	[-0.02, -0.01]	-.26
Cyber IPA	0.34	.001	[0.02, 0.07]	.22
Cyber control	-0.01	.930	[-0.00, 0.00]	-.01
IPA X Control	-0.10	.264	[-0.00, 0.00]	-.07
Women				
Social desirability	-0.23	.012	[-0.02, -0.00]	-.22
Cyber IPA	0.38	.005	[0.02, 0.10]	.25
Cyber control	0.00	.996	[-0.00, 0.00]	.00
IPA X Control	-0.08	.498	[-0.00, 0.00]	-.06
Men				
Social desirability	-0.31	.004	[-0.03, -0.01]	-.27
Cyber IPA	0.35	.017	[0.01, 0.06]	.22
Cyber control	-0.05	.686	[-0.00, 0.00]	-.04
IPA X Control	-0.06	.688	[-0.00, 0.00]	-.04

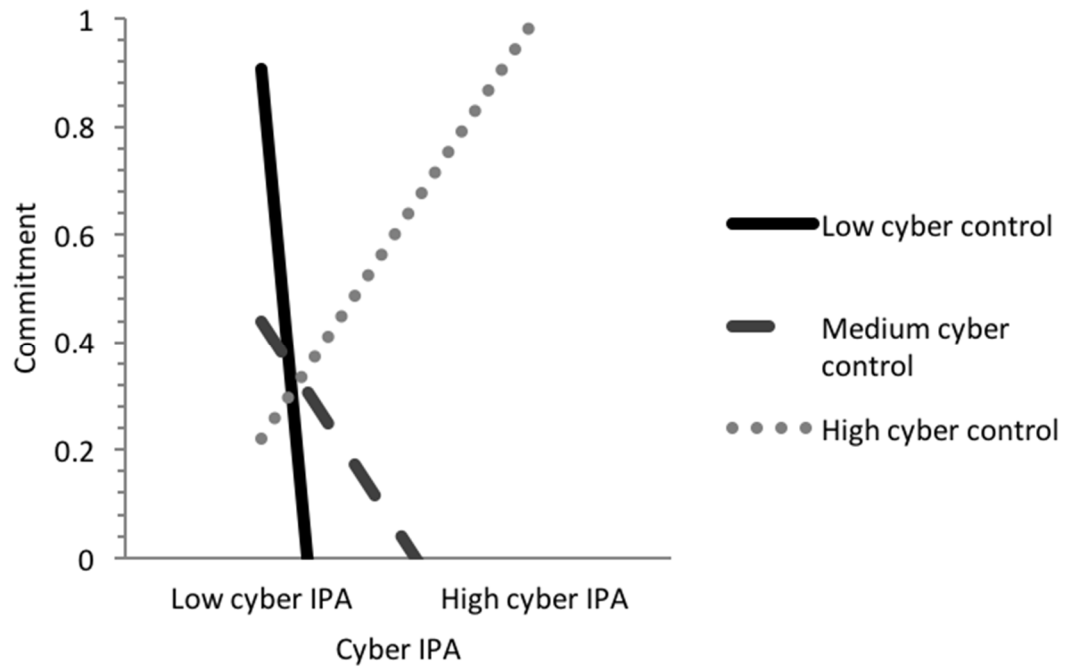


Figure 1. A graphical depiction of the interaction between cyber intimate partner aggression (IPA) and cyber control predicting relationship commitment for women. The units for commitment are based on the average of the items and the units for cyber IPA are based on z scores. Low and medium frequencies of control interact with higher cyber IPA to predict lower commitment. High frequencies of control interact with higher cyber IPA to predict higher commitment.

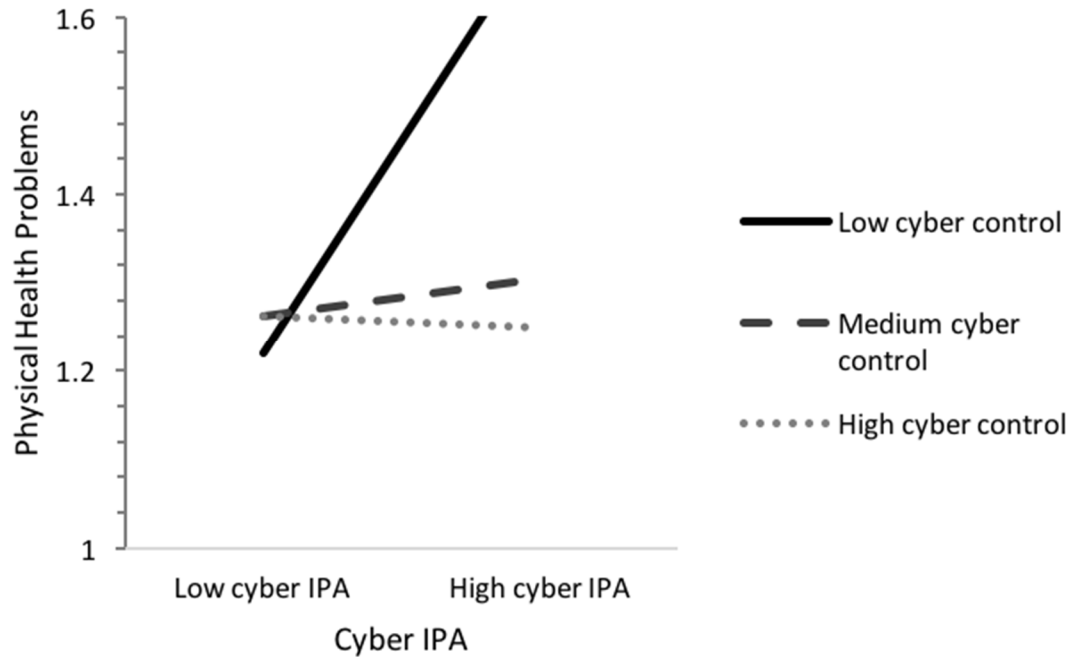


Figure 2. A graphical depiction of the interaction between cyber intimate partner aggression (IPA) and cyber control predicting physical health problems for women. The units for physical health problems are based on the sum of the items and the units for cyber IPA are based on z scores. Low frequencies of control interact with higher cyber IPA to predict more physical health problems. Medium and high frequencies of control interact with higher cyber IPA to predict less physical health problems.

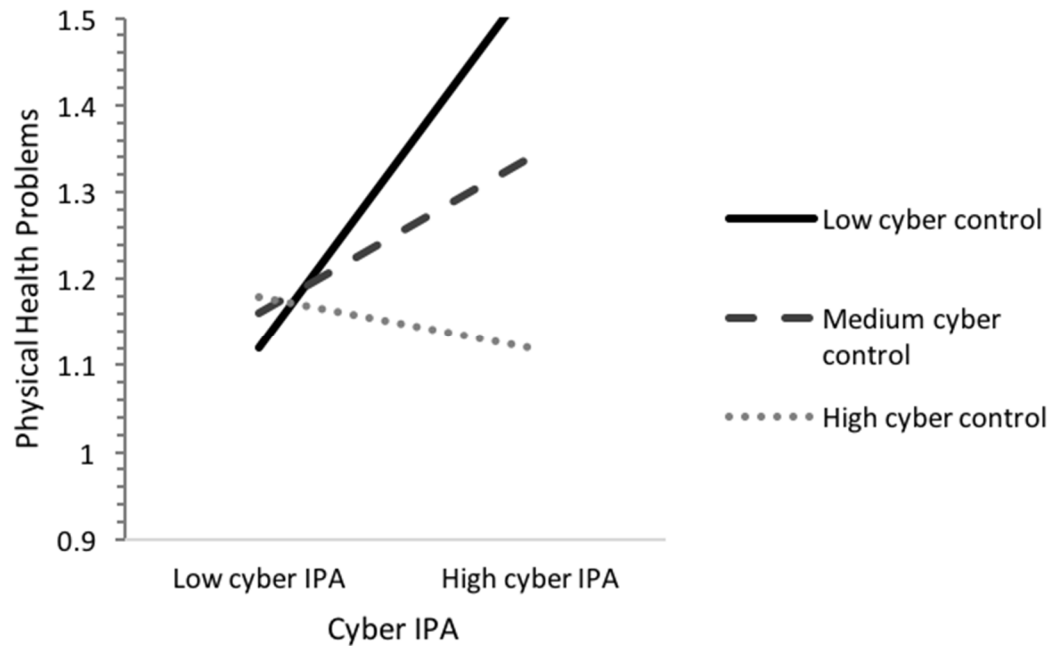


Figure 3. A graphical depiction of the interaction between cyber intimate partner aggression (IPA) and cyber control predicting physical health problems for men. The units for physical health problems are based on the sum of the items and the units for cyber IPA are based on z scores. Low and medium frequencies of control interact with higher cyber IPA to predict more physical health problems. High frequencies of control interact with higher cyber IPA to predict less physical health problems.

For hypothesis 3, I entered total cyber IPA, total cyber control, acceptance of cyber IPA, and all 2- and 3-way interaction terms into the regressions as predictors. Each of the regression models were significant: relationship satisfaction, $X^2(8, N = 209) = 32.95, p < .001$, Nagelkerke $R^2 = .23$; and commitment, $X^2(7, N = 209) = 15.58, p = .029$, Nagelkerke $R^2 = .10$; and mental, $F(4,204) = 5.90, p < .001, R^2 = .19$; and physical health, $F(4,204) = 2.34, p = .02, R^2 = .09$. As can be seen from Tables 10 to 13, none of the potential three-way interactions were significant for women or men. Thus, this hypothesis was not supported. This suggested that acceptance of cyber IPA did not interact with cyber IPA and cyber control to predict relationship quality or health. However, when men and women were examined separately, acceptance of cyber IPA was related to men's relationship commitment and men's mental health. Specifically, men who were accepting of cyber IPA had lower commitment and fewer mental health problems than men who were not accepting of cyber IPA. In addition, when acceptance of cyber IPA was controlled for, high frequencies of cyber control significantly predicted less physical health problems for women.

Table 10

Cyber Intimate Partner Aggression (IPA), Control, and Acceptance of Intimate Partner Aggression Predicting Satisfaction

Predictors	Exp(B)	<i>p</i>	95% C.I.	Wald
Social desirability	1.26	.002	[1.09, 1.47]	9.61
Cyber IPA	0.33	.012	[0.14, 0.78]	6.35
Cyber control	0.99	.559	[0.95, 1.03]	0.34
Acceptance	0.98	.737	[0.88, 1.09]	0.11
IPA X Control	0.99	.783	[0.94, 1.05]	0.08
Acceptance X IPA	0.97	.721	[0.84, 1.13]	0.13
Acceptance X Control	1.00	.759	[0.99, 1.01]	0.09
Acceptance X IPA X Control	1.00	.383	[1.00, 1.01]	0.76

Table 11

Cyber Intimate Partner Aggression (IPA), Control, and Acceptance of Intimate Partner Aggression Predicting Commitment

Predictors	Exp(B)	<i>p</i>	95% C.I.	Wald
Overall				
Cyber IPA	0.42	.003	[0.24, 0.75]	8.64
Cyber control	1.01	.690	[0.98, 1.03]	0.16
Acceptance	1.00	.985	[0.93, 1.07]	0.00
IPA X Control	1.00	.994	[0.97, 1.03]	0.00
Acceptance X IPA	1.05	.279	[0.96, 1.15]	1.17
Acceptance X Control	1.00	.745	[1.00, 1.01]	0.11
Acceptance X IPA X Control	1.00	.479	[1.00, 1.01]	0.50
Women				
Cyber IPA	0.21	.004	[0.07, 0.60]	8.30
Cyber control	1.02	.334	[0.98, 1.07]	0.94
Acceptance	1.10	.170	[0.96, 1.25]	1.88
IPA X Control	1.06	.038	[1.00, 1.12]	4.32
Acceptance X IPA	1.15	.103	[0.97, 1.35]	2.65
Acceptance X Control	1.00	.581	[0.99, 1.01]	0.31
Acceptance X IPA X Control	1.00	.598	[0.99, 1.01]	0.28
Men				
Cyber IPA	0.66	.290	[0.31, 1.42]	1.12
Cyber control	1.02	.297	[0.98, 1.06]	1.09
Acceptance	0.89	.051	[0.79, 1.00]	3.81
IPA X Control	0.96	.106	[0.91, 1.01]	2.62
Acceptance X IPA	1.01	.913	[0.87, 1.18]	0.01
Acceptance X Control	1.00	.475	[1.00, 1.01]	0.51
Acceptance X IPA X Control	1.01	.337	[1.00, 1.01]	0.92

Table 12

Cyber Intimate Partner Aggression (IPA), Control, and Acceptance of Intimate Partner Aggression Predicting Physical Health Problems

Predictors	β	p	95% C.I.	Semi-partial correlation
Overall				
Social desirability	-0.20	.008	[-0.02, -0.00]	-.18
Cyber IPA	0.20	.072	[-0.00, 0.05]	.12
Cyber control	-0.13	.124	[-0.00, 0.00]	-.10
Acceptance	0.03	.684	[-0.00, 0.00]	.03
IPA X Control	-0.28	.008	[-0.00, 0.00]	-.18
Acceptance X IPA	-0.09	.476	[-0.01, 0.00]	-.05
Acceptance X Control	0.05	.585	[0.00, 0.00]	.04
Acceptance X IPA X Control	0.10	.450	[0.00, 0.00]	.05
Women				
Social desirability	-0.21	.036	[-0.02, -0.00]	-.20
Cyber IPA	0.22	.113	[-0.01, 0.07]	.15
Cyber control	-0.28	.030	[-0.00, 0.00]	-.20
Acceptance	0.23	.060	[0.00, 0.01]	.18
IPA X Control	-0.40	.035	[-0.01, 0.00]	-.20
Acceptance X IPA	0.13	.467	[-0.00, 0.01]	.07
Acceptance X Control	-0.01	.942	[0.00, 0.00]	-.01
Acceptance X IPA X Control	0.02	.919	[0.00, 0.00]	.01
Men				
Social desirability	-0.11	.318	[-0.02, 0.01]	-.10
Cyber IPA	0.43	.013	[0.01, 0.07]	.25
Cyber control	-0.02	.860	[-0.00, 0.00]	-.02
Acceptance	-0.21	.075	[-0.01, 0.00]	-.18
IPA X Control	-0.43	.009	[-0.00, 0.00]	-.26
Acceptance X IPA	-0.18	.352	[-0.01, 0.00]	-.09
Acceptance X Control	0.12	.353	[0.00, 0.00]	.09
Acceptance X IPA X Control	0.18	.344	[0.00, 0.00]	.09

Table 13

Cyber Intimate Partner Aggression (IPA), Control, and Acceptance of Intimate Partner Aggression Predicting Mental Health Problems

Predictors	β	p	95% C.I.	Semi-partial correlation
Overall				
Social desirability	-0.26	.000	[-0.02, -0.01]	-.25
Cyber IPA	0.34	.001	[0.02, 0.07]	.21
Cyber control	0.00	.989	[-0.00, 0.00]	.00
Acceptance	-0.05	.507	[-0.01, 0.00]	-.04
IPA X Control	-0.13	.188	[-0.00, 0.00]	-.08
Acceptance X IPA	-0.05	.673	[-0.01, 0.00]	-.03
Acceptance X Control	-0.03	.718	[0.00, 0.00]	-.02
Acceptance X IPA X Control	0.12	.331	[0.00, 0.00]	.06
Women				
Social desirability	-0.21	.026	[-0.02, -0.00]	-.20
Cyber IPA	0.39	.004	[0.02, 0.11]	.26
Cyber control	-0.05	.673	[-0.00, 0.00]	-.04
Acceptance	0.01	.929	[-0.01, 0.01]	.01
IPA X Control	-0.18	.313	[-0.01, 0.00]	-.09
Acceptance X IPA	-0.10	.559	[-0.01, 0.01]	-.05
Acceptance X Control	0.04	.741	[0.00, 0.00]	.03
Acceptance X IPA X Control	0.19	.379	[0.00, 0.00]	.08
Men				
Social desirability	-0.34	.002	[-0.03, -0.01]	-.29
Cyber IPA	0.34	.029	[0.00, 0.06]	.20
Cyber control	0.03	.838	[-0.00, 0.00]	.02
Acceptance	-0.21	.048	[-0.01, 0.00]	-.18
IPA X Control	-0.10	.517	[-0.00, 0.00]	-.06
Acceptance X IPA	0.11	.523	[-0.00, 0.01]	.06
Acceptance X Control	-0.13	.267	[-0.00, 0.00]	-.10
Acceptance X IPA X Control	0.05	.794	[0.00, 0.00]	.02

I assessed the fourth hypothesis, that both women's and men's in-person typology would be congruent with their cyber typology, through a cross-tabulation and Kappa analysis. For this research question, the two variables were cyber and in-person typology. Each diagonal cell contained the number of people whose cyber and in-person IPA typologies were congruent (i.e., both of the cyber and in-person IPA relationships were categorized as situational couple violence). The nondiagonal cells contain the number of participants whose cyber and in-person IPA relationship types were incongruent. The Kappa analysis determined whether the two categorical variables were independent or dependent. This analysis was conducted separately for men and women (see Tables 14 and 15).

This hypothesis was supported as there were high levels of congruence. For women, the number of participants who were categorized in the same relationship type for cyberspace and in-person was 66.1%. There was also significant agreement between the two typologies ($\kappa = .432, p < .001$). For men, the number of participants who were categorized in the same relationship type for cyberspace and in-person was 68.3%. Similar to women, there also was significant agreement between the two typologies ($\kappa = .448, p < .001$). A summary of the study's hypotheses, independent and dependent variables, and analyses are presented in Table 16.

Table 14

Cross-Tabulation between Cyber and In-person Intimate Partner Aggression (IPA) Typologies for Women

Cyber IPA typology	In-person IPA typology			
	Situational couple violence	Violent resistance	Intimate terrorism	Mutual violent control
Situational couple violence	29	1	1	0
Violent resistance	5	1	0	0
Intimate terrorism	1	0	2	1
Mutual violent control	4	0	7	7

Table 15

Cross-Tabulation between Cyber and In-person Intimate Partner Aggression (IPA) Typologies for Men

Cyber IPA typology	In-person IPA typology			
	Situational couple violence	Violent resistance	Intimate terrorism	Mutual violent control
Situational couple violence	32	3	0	0
Violent resistance	7	1	0	0
Intimate terrorism	0	0	1	0
Mutual violent control	3	1	6	9

Table 16

Study Variables and Proposed Data Analyses for Each Hypothesis

Hypotheses	Independent variable(s)	Dependent variable(s)	Prediction	Analysis	Results
1a	Prevalence rates for Johnson's cyber and in-person typologies	--	Higher prevalence rates for situational couple violence for cyber IPA than in-person IPA for both men and women.	Compare percentages.	Only violent resistance and mutual violent control had higher rates for cyberspace than in-person for men and women.
1b	Prevalence rates for Johnson's cyber and in-person typologies	--	Equal situational couple violence rates for men and women. Higher intimate terrorism and violent resistance rates for women than men for cyber and in-person. Higher mutual violent control rates for men than women for cyber and in-person.	Compare genders with chi-square and percentages.	Men and women had equivalent rates of situational couple violence, violent resistance, and mutual violent control for cyber and in-person and women had higher rates than men for intimate terrorism for cyber only.
2	Cyber IPA, cyber control, and the interaction term	Satisfaction, commitment, mental health, and physical health	Cyber IPA will be a significant predictor of reduced relationship quality and poorer physical and mental health—especially for men and women in high control relationships (e.g., intimate terrorism).	Linear and bivariate logistic regressions	Cyber IPA predicted satisfaction, commitment, and mental health. Cyber control predicted physical health problems among women. Cyber IPA X Cyber control predicted physical health for men and women combined and for men and women separately, and commitment for women.
3	Cyber IPA, cyber control, acceptance of cyber IPA, and interaction terms	Satisfaction, commitment, mental health, and physical health	The interaction between Johnson's typology and acceptance of cyber IPA will predict low relationship quality and physical and mental health for women and men.	Linear and bivariate logistic regressions	No three-way interactions were significant for women or men, but acceptance of cyber IPA was related to commitment and mental health for men.
4	In-person typology	Cyber typology	Both women's and men's in-person and cyber IPA typologies will be congruent.	Cross-tabulation with Kappa	Significantly congruent.

CHAPTER IV

Discussion

The current study aimed to apply Johnson's typology (1995, 2006) to cyberspace. Additionally, it aimed to examine the relation between IPA, control, and acceptance of IPA in cyberspace, and health and relationship functioning. Specifically, the study examined whether an interaction between cyber IPA and cyber control was predictive of relationship satisfaction, relationship commitment, physical health, and mental health. This study also assessed whether there was a three-way interaction between cyber IPA, cyber control, and acceptance of cyber IPA, and whether the interaction was predictive of participants' relationship quality and health.

Johnson's Typology

Hypothesis 1a was that a higher number of participants would fall in each of Johnson's four typology categories for cyber IPA than in-person IPA. This hypothesis was partially supported. As predicted, the majority of participants were categorized in the situational couple violence relationship type, replicating past research (Bates et al., 2014). The present study extended these findings by applying Johnson's typology to emerging adults' use of IPA and control in cyberspace and in-person.

I predicted that participants would experience more cyber than in-person IPA and control for two reasons. One, previous studies have found that cyber IPA has higher rates compared to overall in-person IPA (Bennett et al., 2011), and two, theories of moral disengagement and online disinhibition suggest that online mediums allow for less moral justification to inflict abuse than in-person mediums (Pornari & Wood, 2010). This hypothesis was partially supported. Within Johnson's typology, participants reported higher rates of violent resistance and mutual violent control for cyberspace than in person

(as predicted). However, contrary to my hypothesis, participants reported experiencing higher rates of intimate terrorism in-person than in cyberspace and similar rates of situational couple violence in-person and in cyberspace.

The above results suggest that violent resistance occurs more often in cyberspace than in person. One reason for this finding is that violent resistance involves one partner perpetrating IPA against their controlling partner in self-defense. This follows previous research that has found that individuals who experience in-person abuse from their partner often retaliate in cyberspace (Schnurr, et al., 2013). It may be that individuals who experience abuse from a controlling partner feel safer retaliating in cyberspace where consequences might not be as imminent.

Similarly, participants reported experiencing mutual violent control more often in cyberspace than in person. One explanation for why participants reported more mutual violent control in cyberspace than in person is because it is often difficult for people to determine the tone or emotional context in cyberspace as suggested by the online disinhibition effect (Suler, 2004). For example, if partners are communicating with one another in cyberspace, they may interpret their partners' responses as being abusive or rude and retaliate. However, in person, they might not view the same responses as abusive or rude due to the presence of social cues (e.g., a smiling face). Therefore, individuals may feel more victimized by their partners in cyberspace than in person and retaliate in cyberspace due to the reduced social cues.

Although theories such as moral disengagement (Bandura, 2002) and the online disinhibition effect (Suler, 2004) suggest that abuse may occur more often in cyberspace than in person, intimate terrorism occurred more often in person than in cyberspace. One possible reason for this finding is that this type of relationship consists of one person

perpetrating IPA and control against their partner (i.e., unidirectional control). Because the control is occurring in only one direction (by one partner), the factors that create the online disinhibition effect may not be applicable (e.g., anonymity, invisibility, and detaching from reality; Suler, 2004). More specifically, perpetrators of intimate terrorism are not anonymous and may desire their victims to know they are the ones abusing and controlling them in order to maintain submission. Thus, although cyberspace provides perpetrators with additional means to control and abuse their partners, it may be more effective and preferable for perpetrators of intimate terrorism to abuse and control their partners in person than in cyberspace.

Additionally, situational couple violence occurred at similar rates in person and in cyberspace. This may be because situational couple violence happens when an argument between partners escalates (Johnson, 2006). Thus, this is likely to happen in the heat of the moment whether partners are discussing something in person or in cyberspace. These are important findings, as research has only recently begun examining cyber IPA and control and comparing it to in-person IPA and control. Although previous research has suggested cyber IPA and control may be more prevalent than in-person IPA and control, much of this research is based on cyberbullying research (Gini et al., 2014; Pornari & Wood, 2010; Robson & Witenberg, 2015). Thus, cyberbullying may be more prevalent than in-person bullying; however, this may not be the case for all types of IPA relationships (as shown in the present study).

Hypothesis 1b predicted that approximately the same percentage of women and men would report patterns consistent with situational couple violence, that more women than men would classify their relationships as intimate terrorism and violent resistance, and that more men than women would classify their relationships as mutual violent

control. This was hypothesized because family violence researchers generally assess situational couple violence and they have found support for gender symmetry (Desmarais, et al., 2012; Sabina & Straus, 2008). However, feminist researchers generally assess intimate terrorism and violent resistance and they have found higher rates for women as victims and men as perpetrators (Dobash et al., 1998). Therefore, it follows that the present study would find similar results. In addition, previous research that examined Johnson's typology separately for women and men found that men reported higher rates of mutual violent control than women (Bates, et al., 2014; Zweig, Yahner, et al., 2014). Hypothesis 1b was partially supported.

Although in the present study there was no significant relationship between gender and typology when considering all four categories at once, this result was likely being influenced by the fact that the majority of all participants, regardless of gender, were in the situational couple violence category. In fact, when the percentages of intimate terrorism, violent resistance, and mutual violent control were examined on their own, different rates for men and women were observed. Women reported being in an intimate terrorism relationship in cyberspace five times more often than men. One potential reason for this finding is that men feel more comfortable using technology to aggress against their partners because they perceive using technology (e.g., cellphones) as acceptable in various situations significantly more than women, including intimate situations (Kirby Forgays, Hyman, & Schreiber, 2014). Therefore, women may experience more IPA and control from their male partners in cyberspace than men experience IPA and control from their female partners. It is also possible that men and women perceive responses differently in cyberspace due to the absence of social cues. For example, women may perceive their or their partners' responses in cyberspace as more aggressive or controlling

compared to men due to the absence of in-person social cues. Thus, women may report being in an intimate terrorism relationship in cyberspace more than men.

As for violent resistance, there were similar rates for men and women in person and in cyberspace. Despite feminist researchers reporting higher rates for women compared to men for relationships similar to violent resistance, the two studies that have examined Johnson's typology separately for men and women also found similar rates across genders for violent resistance (Bates, et al., 2014; Zweig, Yahner, et al., 2014). Thus, it may be that an equivalent amount of men and women perpetrate IPA against their controlling partners in self-defense.

Although previous research has found that men reported higher rates of mutual violence control than women (Bates et al., 2014; Zweig, Yahner, et al., 2014), the present study found that women and men reported similar rates of mutual violent control in person and in cyberspace. Bates and colleagues (2014) used in-person measures of IPA and control, although they did not specify that participants should solely report on in-person experiences of IPA and control; thus, it is possible that participants may have also reported on cyber experiences of IPA and control. Moreover, Zweig, Yahner, and colleagues (2014) combined cyber and in-person measures of IPA and control. Thus, it is possible that these two sets of authors' results were affected because they did not distinguish between in-person and cyber IPA and control. Another reason for the discrepancy is that the present study used a coercive control measure that assessed the entire process of control, whereas previous research did not. Therefore, it may be that the present study's finding concerning mutual violent control is more accurate. Additionally, the finding that women and men have similar rates of mutual violent control in person and in cyberspace may be unique to the current study and may not generalize to other

studies or samples. Thus, further research is needed on this topic to see if the finding can be replicated, as research on cyber IPA is still in its early stages.

IPA and Coercive Control

The second hypothesis, that cyber IPA would be significantly associated with low relationship satisfaction and commitment and poor physical and mental health, especially for women and men in more controlling relationships, was expected given previous research that has found both cyber and in-person IPA to be related to poor mental and physical health and low relationship quality (Coker et al., 2002; Fritz et al., 2016; Simmering McDonald, 2012; Weston, 2008). Despite some inconsistencies regarding whether men or women are more negatively affected by IPA (Amanor-Boadu et al., 2011; Caldwell et al., 2012; Romito & Grassi, 2007; Sabina & Straus, 2008), it was predicted that both men and women in more abusive and controlling relationships would have low relationship quality and poor health based on previous research (Coker et al., 2002; Johnson & Leone, 2005). This is an important hypothesis as research concerning cyber IPA is limited, and only one known previous study has examined the relation between cyber IPA and relationship quality and very few have examined the relation between cyber IPA and health. This hypothesis was partially supported.

Given the sample size of this study, men and women were only examined separately if gender was significantly correlated with the dependent variable. Thus, for each dependent variable (relationship satisfaction, relationship commitment, mental health, and physical health) men and women were examined together, but for relationship commitment, physical health, and mental health, effects for men and women were also examined separately. Cyber IPA was significantly related to lower relationship satisfaction and relationship commitment and more mental health problems. Cyber

coercive control in participants' relationships did not appear to affect participants' relationship quality or health, except for women's physical health. In addition, the interaction between cyber IPA and cyber control significantly predicted relationship commitment for women such that high frequencies of cyber control and higher frequencies of cyber IPA in a relationship were related to higher commitment, and low and medium frequencies of control with higher frequencies of cyber IPA were related to lower commitment. Therefore, this suggests that women who are in abusive relationships are more committed to their relationships if there are high frequencies of control, but less committed if there are low frequencies of control.

This finding is related to previous research that has found that women who are in relationships with high levels of abuse and control (e.g., intimate terrorism) report having left their partners multiple times, whereas women who are in abusive but less controlling relationships report having left their partner only once (Johnson & Leone, 2005). This suggests that women who are in highly controlling relationships often return to their partners, which could be a sign of commitment to their partner. In addition, Stark (2007) has discussed how women in abusive and controlling relationships are in an invisible "cage." To other people, it appears as if these women could leave their partners at any time, but to the women in these controlling relationships, they cannot escape. Instead, they feel trapped by the previous abuse they have experienced, the specific instructions their partner has them follow, the lack of access to money, etc.

This invisible cage is similar to Dutton and Goodman's (2005) description of how perpetrators set the stage for obtaining obedience from their victims. Perpetrators will make demands and if the demands are not followed, the perpetrators will enforce consequences (e.g., physical abuse, no access to their children). Any time these women

think about leaving, they may remember the consequences of what happened the last time they tried to leave, that they have no contact with their family or friends anymore because their partner forced them to stop talking to them, and the numerous remarks their partner has made about how no one else could ever love them and that they are lucky their partners are still with them. Therefore, women in high IPA and high control relationships often remain committed to their partners despite the consequences.

In addition, the interaction between cyber IPA and cyber control significantly predicted physical health for both men and women. In general, low frequencies of cyber control with higher frequencies of cyber IPA were related to more physical health problems, whereas high frequencies of cyber control and higher frequencies of cyber IPA were related to fewer physical health problems for both men and women. As predicted, higher frequencies of cyber IPA were associated with physical health problems. However, contrary to expectations and past research, higher frequencies of cyber IPA in combination with low frequencies of cyber control were associated with physical health problems. Given that past research (Johnson & Leone, 2005) examined in-person forms of control, it could be that cyber control, when experienced in combination with cyber IPA, may affect individuals' health differently. For example, although individuals who experience cyber IPA may have poor physical health, having high frequencies of cyber control in a relationship may increase participants' focus on their physical health. More specifically, individuals in abusive and controlling relationships may be forced by their partner to eat healthy diets, exercise, and visit the doctor/health care practitioners regularly. Thus, control in a relationship may negate the negative effects of IPA. However, if individuals are in abusive relationships with low control, they may have the

associated negative health symptoms without having a partner who will force them to take care of their physical health.

Another explanation may be that victims perceive controlling behaviours as confirmation that perpetrators really care for them (e.g., they spend all of their time together and perpetrators continually check up on their victims). This may cause the victims to feel cared for and loved, which may be associated with experiencing fewer physical health problems. On the other hand, individuals with abusive noncontrolling partners do not experience these controlling behaviours. Thus, they may not feel cared for or loved, which may be associated with experiencing more physical health problems.

In addition, because the present study was cross-sectional, it is possible that individuals with physical health problems are easier targets for perpetrators than individuals without physical health problems (Hassounah-Phillips & McNeff, 2005). Therefore, perpetrators may not need to enact controlling behaviours to obtain submission from victims with physical health problems.

The present study also found that, when acceptance of cyber IPA was included as a control variable, higher frequencies of cyber control predicted fewer physical health problems in women. Similar to the above finding, this may suggest that women with controlling partners have less physical health problems because controlling partners may force the women to focus on their physical health or make them feel cared for. Perpetrators may also be able to obtain submission from women with physical health problems using less controlling behaviours compared to women with no physical health problems.

The Role of Acceptance of IPA

My third hypothesis was that there would be an interaction (i.e., moderating effect) between Johnson's typology and acceptance of cyber IPA in predicting low relationship satisfaction and commitment and poor physical and mental health for women and men. This was an exploratory hypothesis because there currently is no known research on the relation between IPA, acceptance of IPA, control, and relationship quality and health. Due to the limited variance in the typology variable, the interaction between total cyber IPA and total cyber control had to be used instead of the typology. Thus, this hypothesis examined a three-way interaction between cyber IPA, cyber control, and acceptance of cyber IPA. Results demonstrated that none of the three way interactions were significant for any of the dependent variables (relationship satisfaction and commitment and physical and mental health).

However, some results did emerge when men and women were examined separately for relationship commitment and mental health. Men who were accepting of cyber IPA had lower commitment and also had fewer mental health problems than men who were less accepting of cyber IPA. It is not surprising that men who do not approve of cyber IPA would be less committed to their romantic relationships. In fact, if they were currently experiencing cyber IPA in their relationships, they would likely be less committed to such relationships given their disapproval of the aggression. In addition, men who are accepting of cyber IPA may report less mental health problems because they do not feel as if IPA behaviours are problematic, and thus may not experience as many mental health problems from cyber IPA as men who are less accepting of cyber IPA. Such findings demonstrate the importance of considering attitudes as well as behaviours related to cyber IPA.

Cyberspace vs. In-person

My fourth hypothesis, that both men's and women's in-person typology would be congruent with their cyber typology, was also exploratory. Given that past research suggests that a couple's in-person behaviour would be related to their cyberspace behaviour (because in-person and cyber IPA correlate positively together), it was predicted that participants' in-person and cyber typologies would be congruent. Despite this, it was possible that the two forms of IPA would not be congruent given that some research has shown cyber IPA to have higher prevalence rates than overall in-person IPA. Thus, it was possible that a couple could be in a relationship that is more violent and controlling in cyberspace than the relationship is in-person. The results from this study showed that both men's and women's in-person and cyber typologies were significantly related, which supported the hypothesis. The percentage of individuals categorized into the same relationship type in person and in cyberspace was 66.1% for women and 68.3% for men. Thus, as previous research suggests, it is more likely that the relationship type individuals have in person is the same relationship type they have in cyberspace. This may suggest that the relationships individuals have in cyberspace are similar to, and may be extensions of, the relationships they have in person.

Implications

Theoretical. The present study has important implications for current theories used in IPA research. For example, as Johnson (2006) stated, it is important to examine the degree to which control is present in IPA relationships in order to obtain an accurate picture of the relationships' dynamics. The present findings provide direct support for this claim. That is, this study found that although cyber control on its own did not generally predict relationship quality or health, the interaction between cyber IPA and cyber control

was predictive of relationship commitment in women and physical health in both men and women. Thus, consistent with Johnson's (2006) model of coercive control, it appears that the interaction between IPA and control is what is most influential—at least when considering cyber forms of IPA and control.

In addition, it is important to note that, in this study, the different relationship categories in Johnson's typology did not all have higher prevalence rates in cyberspace than in person (contrary to cyberbullying research). This needs to be addressed in the literature because currently cyber IPA research is still relatively recent and many researchers build hypotheses off of cyberbullying research. However, it may be that the interaction between perpetrators and victims differs for cyberbullies versus individuals in certain IPA relationships. For example, the online disinhibition effect may not occur in intimate terrorism (i.e., the perpetrators do not have anonymity, invisibility, etc.). Thus, these results suggest that researchers examining cyber IPA should not draw inferences solely from cyberbullying research, but should instead focus more attention on in-person IPA research.

Another important implication of this study is the different pattern of results that emerged for women versus men. First, although there were no gender differences in the prevalence rates for situational couple violence, violent resistance, and mutual violent control in person or in cyberspace, women reported being in intimate terrorism relationships more often than men in cyberspace. Second, gender differences also were found at the main effect level where cyber IPA predicted physical health for men and commitment for women. Additionally, the interaction between cyber IPA and cyber control predicted relationship commitment for women. Taken together, although some

findings were consistent across genders, the presence of gender differences for certain variables may suggest different implications for women versus men.

It is also important to note that social desirability was a significant covariate for multiple analyses. Thus, in order for researchers to obtain an accurate model of their data it may be vital for them to incorporate social desirability into their studies.

Clinical. Although there is currently a paucity of research on the potential consequences of cyber IPA, it is an important area of study because results can aid the development of more specific IPA prevention and intervention programs. The present study found that cyber IPA was significantly related to relationship satisfaction and commitment and mental health. This is informative as it suggests that individuals who are experiencing cyber IPA, similar to in-person IPA, also experience low relationship and health quality. This is an important finding as previous research has only begun studying cyber IPA. In addition, this finding suggests that cyber IPA should also be included as a target in prevention and intervention programs. Although the present study does not infer causality, it does show that individuals who experience higher frequencies of cyber IPA also are likely experiencing lower relationship quality and quality of health.

Another finding that is informative for IPA prevention and intervention programs is the gender differences found. The results suggest that not only should there be programs available for male and female perpetrators and victims, but that these programs should be specifically designed for men and women separately in order to focus on areas that are more applicable to each gender. For example, women may benefit more from programs that concentrate on the relation between cyber IPA, cyber control, and commitment than men and men may benefit more from programs that concentrate on the relation between cyber IPA and physical health than women.

Policy. Furthermore, this study also has implications for professionals such as, policy makers, clinical psychologists, law enforcement, and women's shelter employees. First, the current laws regarding IPA are generally only applicable for adults who are cohabitating or married and not for emerging adults in noncohabitating dating relationships (Hyman, Lucibello, & Meyer, 2010). This suggests that emerging adult IPA perpetrators are less likely to be apprehended and victims receive less support from the legal system. The present study demonstrates that emerging adults are affected by IPA and require the same services as cohabitating and married counterparts.

Another issue that needs to be addressed is the current laws in place for cyber IPA. For example, policy makers and law enforcement need to understand that individuals in cyber IPA relationships have more mental and physical health problems than individuals not in cyber IPA relationships. Although there are policies concerning victims of in-person physical IPA, there needs to be policies concerning cyber IPA as well in order for perpetrators and victims to obtain essential services. This area is growing, as can be seen in the news with cyberbullies being held responsible for their crimes (Logan & Tucker, 2013); however, policies also need to evolve to include cyber IPA as well.

Moreover, it is also important for clinical psychologists, health care workers, and shelter employees to understand the impact cyber IPA can have on individuals in order to give them the best care. For example, shelter employees should know the multiple ways perpetrators are abusing their victims via cyberspace in order to keep victims safe. Furthermore, health care professionals need to be made aware that cyber IPA can have similar effects as in-person IPA on a client's relationship quality and health, and should therefore be addressed. In addition, emerging adults themselves need to be educated about

the relation between cyber IPA and relationship quality and health as well as the services they can use if they are experiencing cyber IPA.

Limitations and Future Research

There were some limitations in the present study. First, although the study attempted to examine the relations among cyber IPA, control, acceptance, relationship quality, and health separately for men and women to further extend the literature, the present study did not have enough power to do so for all regressions in hypotheses 2 and 3. Despite this, regressions for relationship commitment, physical health, and mental health were run separately for men and women, producing important insights. However, other significant effects may have not emerged due to low power. Thus, future studies should continue to examine both men and women to determine whether the relations among the main variable differ by gender.

Second, there was not enough variability in the cyber typology variable to use as a predictor in the regressions. Thus, an interaction term between total cyber IPA and total cyber control was used instead. Although this interaction term was used as a substitute for the typology, it is important to note that the typology is a nominal variable and the interaction term is a continuous variable. Future research should attempt to collect approximately equal numbers of each of Johnson's cyber relationship types to determine if they differ in regards to participants' relationship quality or health.

Third, due to extreme skewness with the relationship satisfaction and commitment variables, these variables had to be dichotomized, and logistic regressions were run. This was done as transformations (e.g., log transformations) could not significantly reduce the skewness. Dichotomizing variables reduces skewness; however, it also limits the variability and sensitivity of the measure.

Fourth, although using Dutton and colleagues' (2005) coercive control measure in this study allowed the process of coercive control (i.e., demands, surveillance, threats, and actions) to be examined, more research is needed to evaluate the measure's psychometric properties. It would also be beneficial for future research to create similar measures of cyber and in-person IPA. Although each of the measures in the present study had good internal consistency, it would be informative for in-person and cyber IPA measures to have similar items and questions. Thus, when researchers compare in-person and cyber IPA they can see the types of items that are more common in person versus in cyberspace.

In addition, it would be informative for researchers to not only examine men and women separately, but also examine both partners in the relationship to determine whether there are any actor and partner effects for cyber IPA and cyber control. Furthermore, it would be informative for future research to test the relations between cyber IPA, cyber control, acceptance of cyber IPA, relationship quality, and health longitudinally to determine causal direction.

Finally, it is possible these results may only be limited to this sample of emerging adults. In addition, the majority of the participants were university students. Thus, the present sample may not represent the full range of IPA. Because cyber IPA research is relatively recent, further research is needed to determine if these results can be replicated.

Strengths

Despite some limitations, this study had many strengths. First, Johnson's typology was applied to cyberspace. No known study has examined and compared Johnson's typology for cyberspace and in-person separately. Thus, this study suggested that the type of relationships individuals have in person are the same as the type of relationships they have in cyberspace. Moreover, I examined the relation between IPA and control in

cyberspace and relationship quality and health separate from in-person IPA. The one previous study that incorporated cyber IPA into Johnson's typology combined in-person and cyber measures, and thus did not examine them separately (Zweig, Yahner, et al., 2014).

Second, I included measures of both cyber psychological and sexual IPA versus other studies that have generally only included cyber psychological IPA. In addition, although I combined the measures of cyber psychological and sexual IPA to create an overall composite score, I reported separate prevalence rates. This is important as there is a paucity of research on cyber sexual IPA and its prevalence.

Third, although the concept of coercive control has been long discussed, many researchers do not incorporate control into their studies. According to Johnson (1999), the various levels of IPA and control in relationships can lead to different consequences for perpetrators and victims, and thus researchers need to include control in their IPA studies in order to obtain an accurate picture of the true dynamics of the relationship.

Fourth, the coercive control measure used in this study assessed the entire process of control (i.e., demands, surveillance, threats, and actions). Most research on coercive control assesses only one part of the control process, which does not produce an accurate depiction of abusive relationships.

Fifth, the present study attempted to examine the relation between IPA, control, relationship quality, and health separately for men and women. Previous research reports inconsistencies regarding whether men and women are more, less, or equally affected by IPA, and thus this study attempted to shed further light on the subject. Consequently, I examined the dependent variables relationship commitment, physical health, and mental health separately by gender.

Last, I examined the impact acceptance of cyber IPA had on the relation between cyber IPA and cyber control and relationship quality and health. No known studies have examined this relation before, especially for IPA and control occurring in cyberspace. Although no three-way interactions were found for cyber IPA, cyber control, and acceptance of cyber IPA, acceptance of cyber IPA was related to commitment and mental health for men.

Conclusion

This study applied Johnson's (2006) typology to cyberspace. As expected, the majority of participants for both cyber and in-person typologies were categorized into the situational couple violence relationship. Participants also reported experiencing more violent resistance and mutual violent control in cyberspace than in person (as predicted), but reported more intimate terrorism in person than in cyberspace and similar rates of situational couple violence in person and in cyberspace. Men and women had equivalent rates of situational couple violence, violent resistance, and mutual violent control in person and in cyberspace, whereas women had higher rates of intimate terrorism than men in cyberspace only.

Despite this, in-person and cyber typologies were significantly related to each other and the percentage of participants that were categorized into the same relationship type for in-person and cyber IPA and control was high. Furthermore, cyber IPA was significantly related to lower relationship satisfaction and commitment and more mental health problems. Higher frequencies of cyber IPA and high frequencies of cyber control were related to higher commitment for women and less physical health problems for women and men. In addition, acceptance of cyber IPA was related to lower relationship commitment and less mental health problems for men. Overall, this study adds to the

relatively new research area of cyber IPA and it also demonstrates the importance of examining both IPA and control to obtain an accurate understanding of abusive relationships.

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APPENDICES

Appendix A: Psychology Participant Pool Descriptions

A1: Participant Pool Advertisement-Males

Study Name: Relations among Electronics, Relationship Conflict, and Lifestyle Trends in Young Adult Males

Brief Abstract: Male participants wanted for a study on electronics, lifestyle trends, and relationship conflict

Detailed Description:

This research study's objective is to examine different lifestyle trends in male emerging adults who are in a romantic relationship.

If you would like to participate in this research study, you will be asked to complete one online session. It is important to note that you **MUST** be in a romantic relationship at the time of the study. The session should take approximately 1 hour to complete. You will receive 1 bonus point for participating.

Location: [INSERT ROOM NUMBER]

Eligibility Requirements:

- You are male
- **At the time of the study**, you must be in a heterosexual dating relationship for a minimum of three months.
- You are not married or in a common-law relationship

Duration: 60 minutes

Points/Pay: 1

Preparation: None

Disqualifiers: Other studies being conducted in the Healthy Relationships Research Group (i.e., Longitudinal Dating Couples Pilot Study).

Participant Sign-Up Deadline: 24 hours before study is to occur

A2: Participant Pool Advertisement-Females

Study Name: Relations among Electronics, Relationship Conflict, and Lifestyle Trends in Young Adult Females

Brief Abstract: Female participants wanted for a study on electronics, lifestyle trends, and relationship conflict

Detailed Description:

This research study's objective is to examine different lifestyle trends in female emerging adults who are in a romantic relationship.

If you would like to participate in this research study, you will be asked to complete one online session. It is important to note that you **MUST** be in a romantic relationship at the time of the study. The session should take approximately 1 hour to complete. You will receive 1 bonus point for participating.

Location: [INSERT ROOM NUMBER]

Eligibility Requirements:

- You are female
- **At the time of the study**, you must be in a heterosexual dating relationship for a minimum of three months.
- You are not married or in a common-law relationship

Duration: 60 minutes

Points/Pay: 1

Preparation: None

Disqualifiers: Other studies being conducted in the Healthy Relationships Research Group (i.e., Longitudinal Dating Couples Pilot Study).

Participant Sign-Up Deadline: 24 hours before study is to occur



Are you male and between the ages of 18 and 25?
Have you been in a heterosexual romantic
relationship for at least 3 months?

If yes: You are eligible to participate in a research study being conducted at the University of Windsor about lifestyle and relationship conflict patterns in young men.

- **We are looking for:** men to participate in study conducted through the University of Windsor
- **You would be asked to:** Fill out measures asking about background information, your experience with your romantic relationship, and your well-being.
- **The study will take:** 60 minutes to complete

In appreciation of your time you will be entered into a draw for 1 of 4 \$50 Amazon Gift Cards

Contact Samantha Daskaluk at E-mail: daskalu@uwindsor.ca

This study has been reviewed by and received ethics clearance from the University of Windsor Research Ethics Board

[illegible]

Appendix C: Letter of Information/Consent Form

C1: Consent Form for Psychology Participant Pool



University
of Windsor

CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: **Relations among Electronics, Relationship Conflict, and Lifestyle Trends in Young Adults**

You are asked to participate in a research study conducted by Samantha Daskaluk under the supervision of Dr. Patti Timmons Fritz, an Associate Professor in the Department of Psychology at the University of Windsor. The results of this study will form the basis of Samantha Daskaluk's Master's thesis research project. If you have any questions or concerns about the research, please feel to contact: Samantha Daskaluk, B.Sc. at daskalu@uwindsor.ca or Patti A. Timmons Fritz, Ph.D., C. Psych. by e-mail at pfritz@uwindsor.ca or by phone at 519-253-3000 ext. 3707.

PURPOSE OF THE STUDY

The purpose of this study is to examine different lifestyle trends and relationship conflict in emerging adults who are in a romantic relationship.

PROCEDURES

If you volunteer to participate in this study, we would ask that you complete one online survey. You will be asked to respond to a series of questions pertaining to you and your romantic partner's lifestyle. The survey should take approximately 60 minutes to complete. You will receive 1 bonus point for participating.

If you volunteer to participate in this study, we will ask you to do the following things:

- Please follow the instructions at the beginning of each survey section before completing the surveys and answer the questions as openly and honestly as possible.

POTENTIAL RISKS AND DISCOMFORTS

There are some potential risks or discomforts that may come from your participation in this study that are important to note. Due to the sensitive and personal nature of this study, you may experience negative thoughts or emotions (e.g., anxiety, sadness, embarrassment, anger) related to some of your past or current experiences in your relationships and lifestyle. Should you experience any form of distress following your participation in this study, please contact someone from the community resource list that will be provided to you at the end of the study.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Although the potential benefits of participating in this study vary from person to person, research has found that some individuals report feeling closer to their romantic partners after participating in research on relationships. By participating in this study, you will help increase our knowledge about the relations among electronics, romantic relationships, and young adults' health. This research may ultimately inform treatment programs aimed at improving relationship quality and health among young dating couples.

PAYMENT FOR PARTICIPATION

You will receive 1 bonus point for 60 minutes of participation toward the Psychology Department Participant Pool if you are registered in the pool and enrolled in one or more eligible courses and you spend a minimum of 10 minutes completing the online survey and answer at least 80% of the survey questions. If you are registered in the pool and spend less than 10 minutes on the survey or answer less than 80% of the questions, you will be awarded partial credit (.5 bonus points).

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will not be disclosed without your permission, except as may be required by the law. This limit to your confidentiality is if you were to report anything related to child abuse. Your name will never be connected to your results or to your responses on the questionnaires; instead, a number/code will be used for identification purposes. In addition, any form that requires your name will be stored separately from the other data and study material. Information that would make it possible to identify you or any other participant will never be included in any sort of research report or publication. Only the researchers working on this project will have access to the information that is provided. The consent forms and compensation receipts will be stored in a locked filing cabinet. The study data will be stored for a minimum of five years following publication of their results in accordance with recommendations of the American Psychological Association. The consent forms, compensation receipts, and online data will be destroyed and/or deleted once it is no longer necessary to store the data.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time. However, if you choose to withdraw prior to signing this consent form and completing the online survey, you will not receive any compensation. In addition, as stated above, you will not receive full compensation if you spend less than 10 minutes completing the survey or if you answer less than 80% of the online survey. You may refuse to answer any questions you do not want to answer and still remain in the study. The investigator may withdraw you or your data from this research if circumstances arise which warrant doing so.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE SUBJECTS

It is expected that the results of this study will be available on the University of Windsor Research Ethics Board (REB) website (<http://www.uwindsor.ca/reb>) by December 30, 2016.

SUBSEQUENT USE OF DATA

These data may be used in subsequent studies, in publications, and in presentations.

RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. If you have questions regarding your rights as a research subject, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

SIGNATURE OF RESEARCH SUBJECT/LEGAL REPRESENTATIVE

I understand the information provided for the study **Relations among Electronics, Relationship Conflict, and Lifestyle Trends in Young Adults** as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. By clicking “I agree”, I am giving consent to participate in this study.

SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

Signature of Investigator

Date

☐ I agree

☐ I do not agree

You may print this page for your records.

We suggest completing this study in a private, safe, and quiet space.

Web Safety Instructions

This information provided is related to web safety. If you would like, this form can be printed and kept for your records.

Section 1: Clearing Your Internet Cache

The Internet cache helps pages load faster by storing images and web pages locally on your computer. This results in a possibility that an unwanted viewer can access this information if they look through the cache folder. Please see below for instructions on clearing your Internet cache. This can also be done any time after you use the Internet to help prevent security risks.

Directions for Clearing the Browser Cache

Browser

Win9x/NT/2000/Me

Mac OS

Internet Explorer	<ol style="list-style-type: none"> 1. From the menu bar select "Tools" 2. Select the option "Internet Options..." 3. Under the "General" Tab look for "Temporary Internet Files" 4. Click on the "Delete Files..." button. 5. Select the "Delete All Offline Content" checkbox and click "OK" 6. Click "OK" once more to return to your browser. 	<ol style="list-style-type: none"> 1. From the menu bar select "Edit" 2. Select the option "Preferences..." 3. Select the "Advanced" item in the left menu. 4. Under "Cache" click "Empty Now". 5. Click "OK" once more to return to your browser.
Netscape	<ol style="list-style-type: none"> 1. From the menu bar select "Edit" 2. Select "Preferences..." 3. Under the "Advanced" menu select "Cache" 4. Click on the "Clear Memory Cache" button. 5. Click on the "Clear Disk Cache" button. 6. Click "OK" once more to return to your browser. 	<ol style="list-style-type: none"> 1. From the menu bar select "Edit" 2. Select the option "Preferences..." 3. Under the "Advanced" headline in the left menu select "Cache". 4. Click "Clear Disk Cache Now". 5. Click "OK" once more to return to your browser.

Section 2: Removing Sites from Your Browser History

Browser history stores previous visits to web pages in an area that can be easily accessed at the click of a button. This is useful if you forget to bookmark a site that you later want to revisit. However, if you are viewing material that you would not like others to see, this is a possible security risk. For example, you may not want anyone to know that you completed this survey. Please see the below instructions for removing websites from your browser's history. This can be done any time after using the Internet to prevent security risks.

Directions for Removing Sites from Your Browser History

Browser	Win9x/NT/2000/Me	Mac OS
Internet Explorer	<ol style="list-style-type: none"> 1. From the menu bar select "View". 2. Highlight "Explorer Bar". 3. Select "History". 4. A bar will show up on the left of your browser. Select the item you wish to delete. 5. Right Click on the selected folder and select "Delete". 	<ol style="list-style-type: none"> 1. From the menu bar select "Window". 2. Select "History". 3. Select the item you wish to delete. 4. Press the "Delete" key. 5. Click "OK".
Netscape 6	<ol style="list-style-type: none"> 1. From the menu bar select "Tasks". 	

2. Highlight “Tools”
3. Select “History”
4. Open the folder in which you wish to delete an item.
5. Open the Sites folder.
6. Select an item in the folder you wish to delete.
7. From the menu bar select “Edit”
8. Select “Delete entire domain...”

- Netscape 4x
1. From the menu bar select “Communicator”
 2. Highlight “Tools”
 3. Select “History”
 4. Select the item you wish to delete.
 5. Right click on the item.
 6. Select “Delete”.

Section 3: Removing Cookies from your Hard Drive

Cookies are small pieces of information left behind by web pages to store information frequently requested. For example, if you click a checkbox that says “save this information for later” it would write a cookie onto the hard drive preventing you from having to enter the information again next time you visit the site. This is why it can be problematic to delete all of the cookie files. The instructions below tell you how to delete only the cookies from high risk site so that you do not end up deleting all of your stored passwords, user information, and preferences from various websites. This can be done any time after using the Internet to prevent security risks.

Directions for Removing Cookies from your Hard Drive

- | Browser | Win9x/NT/2000/Me | Mac OS |
|-------------------|--|--|
| Internet Explorer | <ol style="list-style-type: none"> 1. From the menu bar select “Tools”. 2. Select the option “Internet Options”. 3. Under the “General” Tab look for “Temporary Internet Files”. 4. Click on the “Settings...” button. 5. Click on the “View Files” button. A list of cookies will appear. 6. Select the cookie you wish to delete. 7. Right mouse click and select “Delete”. | <ol style="list-style-type: none"> 1. From the menu bar select “Edit”. 2. Select the option “Preferences...” 3. Select the “Advanced” item in the left menu. 4. Under “Cache” click “Empty Now”. 5. Click “OK” to return to your browser. |
| Netscape 6 | <ol style="list-style-type: none"> 1. From the menu bar select “Edit”. 2. Select “Preferences” 3. Under “Privacy & Security” select “Cookies”. 4. Click “View Stored Cookies”. | <ol style="list-style-type: none"> 1. From the menu bar select “Edit”. 2. Select the option “Preferences...” |

5. Select the cookie you wish to delete.

7. Click “Remove Cookie”

Warning: Do NOT check box titled “Don’t allow removed cookies to be reaccepted later.” This will add them to a list easily accessible through the “Cookie Sites” tab.

Browser

Netscape 4.x

Win9x/NT/2000/Me

It is not advisable to use Netscape 4.x to view sensitive material. Although they are difficult to find, cookies are stored on the machine without a means of removing them.

3. Under the “Advanced” headline in the left menu select “Cache”.

4. Click “Clear Disk Cache Now”.

5. Click “OK” to return to your browser.

Mac OS

1. From the menu bar select “Edit”.

2. Select the option “Preferences...”

3. Under the “Advanced” headline in the left menu select “Cache”.

4. Click “Clear Disk Cache Now”.

5. Click “OK” to return to your browser.

C2: Consent Form for Outside of the Psychology Participant Pool



University
of Windsor

CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: **Relations among Electronics, Relationship Conflict, and Lifestyle Trends in Young Adults**

You are asked to participate in a research study conducted by Samantha Daskaluk under the supervision of Dr. Patti Timmons Fritz, an Associate Professor in the Department of Psychology at the University of Windsor. The results of this study will form the basis of Samantha Daskaluk's Master's thesis research project. If you have any questions or concerns about the research, please feel to contact: Samantha Daskaluk, B.Sc. at daskalu@uwindsor.ca or Patti A. Timmons Fritz, Ph.D., C. Psych. by e-mail at pfritz@uwindsor.ca or by phone at 519-253-3000 ext. 3707.

PURPOSE OF THE STUDY

The purpose of this study is to examine different lifestyle trends and relationship conflict in emerging adults who are in a romantic relationship.

PROCEDURES

If you volunteer to participate in this study, we would ask that you complete one online survey. You will be asked to respond to a series of questions pertaining to you and your romantic partner's lifestyle. The survey should take approximately 60 minutes to complete. You will be entered to win 1 of 4 \$50 Amazon gift cards.

If you volunteer to participate in this study, we will ask you to do the following things:

- Please follow the instructions at the beginning of each survey section before completing the surveys and answer the questions as openly and honestly as possible.

POTENTIAL RISKS AND DISCOMFORTS

There are some potential risks or discomforts that may come from your participation in this study that are important to note. Due to the sensitive and personal nature of this study, you may experience negative thoughts or emotions (e.g., anxiety, sadness, embarrassment, anger) related to some of your past or current experiences in your relationships and lifestyle. Should you experience any form of distress following your participation in this study, please contact someone from the community resource list that will be provided to you at the end of the study.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Although the potential benefits of participating in this study vary from person to person, research has found that some individuals report feeling closer to their romantic partners after participating in research on relationships. By participating in this study, you will help increase our knowledge about the relations among electronics, romantic relationships, and young adults' health. This research may ultimately inform treatment programs aimed at improving relationship quality and health among young dating couples.

PAYMENT FOR PARTICIPATION

You will be entered into a draw to win 1 of 4 \$50 Amazon gift cards if you spend a minimum of 10 minutes completing the online survey and answer at least 80% of the survey questions.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will not be disclosed without your permission, except as may be required by the law. This limit to your confidentiality is if you were to report anything related to child abuse. Your name will never be connected to your results or to your responses on the questionnaires; instead, a number/code will be used for identification purposes. In addition, any form that requires your name will be stored separately from the other data and study material. Information that would make it possible to identify you or any other participant will never be included in any sort of research report or publication. Only the researchers working on this project will have access to the information that is provided. The consent forms and compensation receipts will be stored in a locked filing cabinet. The study data will be stored for a minimum of five years following publication of their results in accordance with recommendations of the American Psychological Association. The consent forms, compensation receipts, and online data will be destroyed and/or deleted once it is no longer necessary to store the data.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time. However, if you choose to withdraw prior to signing this consent form and completing the online survey, you will not receive any compensation. In addition, as stated above, you will not receive full compensation if you spend less than 10 minutes completing the survey or if you answer less than 80% of the online survey. You may refuse to answer any questions you do not want to answer and still remain in the study. The investigator may withdraw you or your data from this research if circumstances arise which warrant doing so.

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SUBSEQUENT USE OF DATA

These data may be used in subsequent studies, in publications, and in presentations.

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You may withdraw your consent at any time and discontinue participation without penalty. If you have questions regarding your rights as a research subject, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

SIGNATURE OF RESEARCH SUBJECT/LEGAL REPRESENTATIVE

I understand the information provided for the study **Relations among Electronics, Relationship Conflict, and Lifestyle Trends in Young Adults** as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. By clicking “I agree”, I am giving consent to participate in this study.

SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

Signature of Investigator

Date

☐ I agree

☐ I do not agree

You may print this page for your records.

We suggest completing this study in a private, safe, and quiet space.

Web Safety Instructions

This information provided is related to web safety. If you would like, this form can be printed and kept for your records.

Section 1: Clearing Your Internet Cache

The Internet cache helps pages load faster by storing images and web pages locally on your computer. This results in a possibility that an unwanted viewer can access this information if they look through the cache folder. Please see below for instructions on clearing your Internet cache. This can also be done any time after you use the Internet to help prevent security risks.

Directions for Clearing the Browser Cache

Browser

Win9x/NT/2000/Me

Mac OS

1. From the menu bar select “Tools”

Internet Explorer	<ol style="list-style-type: none"> 2. Select the option "Internet Options..." 3. Under the "General" Tab look for "Temporary Internet Files" 4. Click on the "Delete Files..." button. 5. Select the "Delete All Offline Content" checkbox and click "OK" 6. Click "OK" once more to return to your browser. 	<ol style="list-style-type: none"> 1. From the menu bar select "Edit" 2. Select the option "Preferences..." 3. Select the "Advanced" item in the left menu. 4. Under "Cache" click "Empty Now". 5. Click "OK" once more to return to your browser.
Netscape	<ol style="list-style-type: none"> 1. From the menu bar select "Edit" 2. Select "Preferences..." 3. Under the "Advanced" menu select "Cache" 4. Click on the "Clear Memory Cache" button. 5. Click on the "Clear Disk Cache" button. 6. Click "OK" once more to return to your browser. 	<ol style="list-style-type: none"> 1. From the menu bar select "Edit" 2. Select the option "Preferences..." 3. Under the "Advanced" headline in the left menu select "Cache". 4. Click "Clear Disk Cache Now". 5. Click "OK" once more to return to your browser.

Section 2: Removing Sites from Your Browser History

Browser history stores previous visits to web pages in an area that can be easily accessed at the click of a button. This is useful if you forget to bookmark a site that you later want to revisit. However, if you are viewing material that you would not like others to see, this is a possible security risk. For example, you may not want anyone to know that you completed this survey. Please see the below instructions for removing websites from your browser's history. This can be done any time after using the Internet to prevent security risks.

Directions for Removing Sites from Your Browser History

Browser	Win9x/NT/2000/Me	Mac OS
Internet Explorer	<ol style="list-style-type: none"> 1. From the menu bar select "View". 2. Highlight "Explorer Bar". 3. Select "History". 4. A bar will show up on the left of your browser. Select the item you wish to delete. 5. Right Click on the selected folder and select "Delete". 	<ol style="list-style-type: none"> 1. From the menu bar select "Window". 2. Select "History". 3. Select the item you wish to delete. 4. Press the "Delete" key. 5. Click "OK".
Netscape 6	<ol style="list-style-type: none"> 1. From the menu bar select "Tasks". 2. Highlight "Tools" 	

3. Select "History"
4. Open the folder in which you wish to delete an item.
5. Open the Sites folder.
6. Select an item in the folder you wish to delete.
7. From the menu bar select "Edit"
8. Select "Delete entire domain..."

- Netscape 4x
1. From the menu bar select "Communicator"
 2. Highlight "Tools"
 3. Select "History"
 4. Select the item you wish to delete.
 5. Right click on the item.
 6. Select "Delete".

Section 3: Removing Cookies from your Hard Drive

Cookies are small pieces of information left behind by web pages to store information frequently requested. For example, if you click a checkbox that says "save this information for later" it would write a cookie onto the hard drive preventing you from having to enter the information again next time you visit the site. This is why it can be problematic to delete all of the cookie files. The instructions below tell you how to delete only the cookies from high risk site so that you do not end up deleting all of your stored passwords, user information, and preferences from various websites. This can be done any time after using the Internet to prevent security risks.

Directions for Removing Cookies from your Hard Drive

- | Browser | Win9x/NT/2000/Me | Mac OS |
|-------------------|--|--|
| Internet Explorer | <ol style="list-style-type: none"> 1. From the menu bar select "Tools". 2. Select the option "Internet Options". 3. Under the "General" Tab look for "Temporary Internet Files". 4. Click on the "Settings..." button. 5. Click on the "View Files" button. A list of cookies will appear. 6. Select the cookie you wish to delete. 7. Right mouse click and select "Delete". | <ol style="list-style-type: none"> 1. From the menu bar select "Edit". 2. Select the option "Preferences..." 3. Select the "Advanced" item in the left menu. 4. Under "Cache" click "Empty Now". 5. Click "OK" to return to your browser. |
| Netscape 6 | <ol style="list-style-type: none"> 1. From the menu bar select "Edit". 2. Select "Preferences" 3. Under "Privacy & Security" select "Cookies". 4. Click "View Stored Cookies". | <ol style="list-style-type: none"> 1. From the menu bar select "Edit". 2. Select the option "Preferences..." |

5. Select the cookie you wish to delete.

7. Click “Remove Cookie”

Warning: Do NOT check box titled “Don’t allow removed cookies to be reaccepted later.” This will add them to a list easily accessible through the “Cookie Sites” tab.

Browser

Netscape 4.x

Win9x/NT/2000/Me

It is not advisable to use Netscape 4.x to view sensitive material. Although they are difficult to find, cookies are stored on the machine without a means of removing them.

3. Under the “Advanced” headline in the left menu select “Cache”.

4. Click “Clear Disk Cache Now”.

5. Click “OK” to return to your browser.

Mac OS

1. From the menu bar select “Edit”.

2. Select the option “Preferences...”

3. Under the “Advanced” headline in the left menu select “Cache”.

4. Click “Clear Disk Cache Now”.

5. Click “OK” to return to your browser.

Appendix D: Questionnaires

Demographic Questionnaire

1. Where did you hear about this study? (ONLY FOR OUTSIDE MEN)
 - a. Facebook
 - b. Email
 - c. Word of mouth
 - d. Poster
 - e. Other, please specify:
2. Where do you reside?
3. What is your age? ____ years old
4. Are you currently in a heterosexual romantic relationship? ____ Yes ____ No
5. How long have you been in your current romantic relationship? ____ year(s) ____ month(s)
6. What is your relationship status?
 - a. Causal dating
 - b. Exclusive dating
 - c. Engaged
 - d. Married
 - e. Other: _____
7. What is your biological sex? _____
8. What is your ethnicity?
9. What religion do you identify with?
10. What is the highest level of education you have completed?
 - a. Grade/Elementary school
 - b. High school
 - c. 1 year of college or university
 - d. 2 years of college or university
 - e. 3 years of college or university
 - f. 4 years of college or university
 - g. 5 or more years of college or university
11. What is your current major?
12. What is YOUR annual income?
 - a. Type amount here:
 - b. Prefer not to respond
13. What is your parents' marital status?
 - a. Married to each other
 - b. Separated
 - c. Divorced
 - d. Never married to each other and not living together
 - e. Never married to each other and living together
 - f. One or both parents have died
14. What is your parents' combined income (make your best estimate)?
 - a. Under \$20,000
 - b. \$20,000 to \$39,999
 - c. \$40,000 to \$59,999
 - d. \$60,000 to \$79,999
 - e. \$80,000 to \$99,999

- f. \$100,000 or Greater
 - g. Don't know
 - h. Prefer not to respond
15. What is your sexual orientation? Heterosexual, Homosexual, Bisexual, or Other:

16. Is your romantic partner male or female?
17. How old were you when you first start dating?
18. How many people have you dated?
19. What is the average length of past your romantic relationships? ____ year(s) ____ month(s)
20. How many people have you been sexually involved with?
21. In your past romantic relationships, have you ever experienced emotion, physical, or sexual abuse? ____ Yes ____ No
22. In your current romantic relationship, are you sexually active? ____ Yes ____ No
23. What is your living situation?
- a. I live by myself
 - b. I live with roommates
 - c. I live with my romantic partner
 - d. I live with my parent(s)/guardian(s)
 - e. Other: _____
24. How many hours per day do you spend on social media (e.g., Facebook, Tumblr, Snapchat, etc.)? ____ hour(s) ____ minute(s)
25. How many text messages do you typically send per day?
26. How many emails do you typically send per day?
27. What amount of time per day do you spend talking on your phone? ____ hour(s) ____ minute(s)

Appendix E: Research Summary and Community Resources

Participant Debriefing Form

Research Summary

Thank you for participating in this study. The main purpose of this study was to examine dating conflict that occurs in-person and in cyberspace. In particular, we are focusing on how conflict in dating relationships occurring in cyberspace can affect individuals' health and relationship quality. Please take a look at the list of resources that is provided to you below. This list contains contact information for various community services in case you wish to contact someone to talk about some of your current or past dating experiences.

Student Counseling Centre, University of Windsor

The Student Counseling Centre (SCC) provides assessment, crisis, and short term counseling. If longer term therapy is indicated, the SCC will provide a referral to the Psychological Services Centre. All services are confidential and offered free to students. The SCC is open 8:30 am – 4:30 pm, Monday – Friday. The SCC is located in Room 293, CAW Centre.

519-253-3000, ext. 4616.

scc@uwindsor.ca

Psychological Services Centre, University of Windsor

The Psychological Services Centre offers assistance to University students in immediate distress and to those whose difficulties are of longer standing. They also seek to promote individual growth and personal enrichment.

519-973-7012 or 519-253-3000, ext. 7012

Teen Health Centre

The Teen Health Centre is dedicated to helping Essex County's young people achieve physical and emotional health and well-being through education, counseling, and support.

519-253-8481

Sexual Assault / Domestic Violence & Safekids Care Center

This care center is located in the Windsor Regional Hospital and provides assessment, counseling, and treatment for domestic violence, sexual assault, and child abuse. It is open 8 am to 4 pm, Monday – Friday or 24 hours, 7 days a week through the hospital emergency services.

519-255-2234

Hiatus House

Hiatus House is a social service agency offering confidential intervention for families experiencing domestic violence.

519-252-7781 or 1-800-265-5142

Distress Centre Line Windsor / Essex

The Distress Centre of Windsor-Essex County exists to provide emergency crisis intervention, suicide prevention, emotional support and referrals to community resources by telephone, to people in Windsor and the surrounding area. Available 12 pm to 12 am seven days a week.

519-256-5000

Community Crisis Centre of Windsor-Essex County

A partnership of hospital and social agencies committed to providing crisis response services to residents of Windsor and Essex counties. Crisis center is open from 9 am to 5 pm, Monday – Friday, at Hotel-Dieu Grace Hospital in Windsor, ON.

519-973-4411 ext. 3277

24 Hour Crisis Line

24 Hour crisis telephone line provides an anonymous, confidential service from 12 pm to 12 am seven days a week. The 24 Hour Crisis Line serves Windsor and Leamington areas.

519-973-4435

Assaulted Women's Helpline

The Assaulted Women's Helpline offers 24-hour telephone and TTY crisis line for abused women in Ontario. This service is anonymous and confidential and is provided in up to 154 languages.

1-866-863-0511 or 1-866-863-7868 (TTY)

Neighbours, Friends, & Family

Neighbours, Friends, and Families is a public education campaign to raise awareness of the signs of woman abuse so that those close to an at-risk woman or an abusive man can help.

<http://www.neighboursfriendsandfamilies.ca/index.php>

Thank you for your participation!

Appendix F: Complete Correlations Table

Bivariate Correlations

[illegible]

14 Cyber perp.	-.03	.17*	-.04	-.03	.04	.02	.03	-.05	.18*	.01	-.25**	.50*	.47*	--									
	-.07	.13	-.09	.03	.04	.05	.01	-.07	.13	.06	-.18**	.44*	.52*	.72*	--								
15 Cyber vic.																							
16 Cyber control perp.	-.13	.01	-.08	-.08	-.01	.03	.13	.01	.03	.17*	-.31**	.51*	.48*	.39*	.37*	--							
17 IP control perp.	-.10	.01	-.08	-.06	.00	-.02	.12	.00	.04	.14*	-.29**	.56*	.54*	.38*	.37*	.97*	--						
18 Cyber control vic.	-.09	.09	-.05	-.03	.01	.03	.08	.01	.10	.08	-.27**	.48*	.57*	.41*	.49*	.84*	.82*	--					
19 IP control vic.	.07	.08	.04	.08	.05	-.02	.08	.03	.07	-.04	-.13	.54*	.58*	.32*	.36*	.62*	.70*	.75*	--				
20 Accept CIPA	-.14	-.08	-.17*	.04	-.05	.06	.14*	.14	-.07	.22*	-.15*	.31*	.30*	.21*	.17*	.27*	.27*	.25*	.26*	--			
	-.07	-.07	-.07	-.09	-.08	.04	.03	.07	.01	.06	.29*	-.18**	-.21**	-.24**	-.20**	-.19**	-.21**	-.18**	-.19**	-.07	--		
21 Sat.																							
22 Commit.	-.10	-.16*	-.11	-.02	-.14*	.08	.04	.02	-.02	.16*	.09	-.06	-.08	-.18*	-.14*	-.04	-.08	-.07	-.13	-.04	.31*	--	
23 Phy. health	-.11	-.33**	-.10	.12	.03	-.04	.15*	.07	-.10	.08	-.20**	.11	.04	-.01	.02	-.03	.01	-.01	.05	.07	-.09	-.06	--
	-.02	-.16*	-.01	.19*	.06	-.06	.13	.02	.07	.09	-.34**	.38*	.30*	.30*	.31*	.21*	.24*	.19*	.27*	.08	-.24**	-.17*	.47*
24 Ment. health																							

Note: Edu. = years of education; Social Media = hours spent on social media daily, Text = number of texts sent daily, Email = number of emails sent daily, Phone = hours spent on phone daily, IP = in-person, Perp. = perpetration, Vic. = victimization, Accept CIPA = acceptance of cyber IPA, Sat. = satisfaction, Commit. = commitment, Phy. = physical, Ment. = mental.

* $p < .05$; ** $p < .01$.

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